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ADDRESS.

MEDICINE AND SURGERY OF THE QUEEN CITY.

Address delivered at the Unity Club, March 25, 1896.

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CINCINNATI, OHIO.

Cincinnati has always had an honored name. We have furnished our quota of statesmen, of soldiers, of artists and skilled artisans. We have had able editors, eminent jurists, eloquent divines. Ascending in the scale of genius, we had one astronomer and two real poets. If we have fallen short it has been in the trades and commercial life, for it is said that some of the railroads have put us on a side track, and one or two of the younger cities about us have left us behind.

But no city in this country has ever surpassed us in medicine. Perhaps there may have been times when a better sermon could be heard, or a higher legal opinion obtained in New York, or some other Eastern city, but there never was a time when a diagnosis of a disease could be better made or an operation be better done elsewhere than here.

DANIEL DRAKE.

Cincinnati had in the very beginning a good start in medicine. We have had some great men and women in Cincinnati. There were the Beechers, father, brother and sister; the Cary sisters, General Lytle, General Mitchell, Buchanan Reed. I asked a young attorney one day who was the strongest lawyer Cincinnati ever had. He said, Stanley Matthews. Though he was not exactly of us, Beecher was certainly the strongest preacher Cincinnati ever sent out. But the memory of neither of these men will live as long as that of Daniel Drake. His works are consulted now, to-day, and must be always by the medical historian and geographer as much as when they were written. The decisions of the just judge, broad as they may be, the appeals of the eminent divine, most penetrating and far-reaching when made in behalf of his country and in denunciation of slavery, are nevertheless forgotten in time with the occasions which gave them birth. But the facts which have been accumulated and compiled by the historian remain in perpetuity. Besides, Daniel Drake was a lover of this city and did more for it than any other single man. You should read what he says in his "Pictures of Cincinnati," published first in 1810 and afterward in 1815, when the town had a population at first of 2,500 and afterward of 6,000 souls. "Our Atlantic brethren will behold with astonishment," he says, "in the green and untutored States of the West, an equipoise for their own. Debarred, by their locality, from an inordinate participation in foreign luxuries, and consequently secured from the greatest corruption introduced by commerce, secluded from foreign intercourse, and thereby rendered patriotic, compelled to engage in manufactures which must render them independent, secure from conquest, or even invasion, and therefore without the apprehensions which prevent the expenditure of money in solid improvements, possessed of a greater proportion of freehold estates than any people on earth, and of course made industrious, independent and proud, the inhabitants of this region are obviously destined to an unrivaled excellence in agriculture, manufactures and internal commerce, in literature and the arts, in public virtue and in national strength."

Drake had the light and airy temperament of the poet and like him was a true lover of nature. He could indulge in persiflage at times and strike true the chords which vibrate in every breast. You should read his panegyric upon the buckeye in a post-prandial speech, or hear him concerning our Indian summer.

"In the autumn of every year we have the period to which this term is affixed. It generally succeeds to rain or snow and severe frost; beginning in October or November and continuing for two or three weeks, with an occasional storm. But the atmosphere is, for the most part, dry, serene and smoky, through which the sun and moon exhibit in the morning and evening a face of darkened crimson. The verdure of the forest fades away, or passes into the countless varieties of brown, yellow and red, which give to the surrounding scenery a somber aspect. The occurrence of rain, with a northwest wind, at length suddenly dispels the gloom, strips the wood of its remaining foliage, and introduces winter with a transparent and cheering atmosphere."

There was difficulty with the water question then as now. "But a large proportion of all that is used is drawn up in barrels from the river. This is often impure and requires time to settle; but for most domestic purposes it is preferred to well water. The proprietors of the steam mill contemplate distributing water over the whole town; a plan so interesting that its execution will constitute an important era in our public improvements."

Whether the steam mill ever supplied the town or not the history does not state. But we know how deplorable is our lot to-day. Our Board of Administration has at last acted upon the recommendation of the physicians to make the attempt to get us pure water to drink. The physicians of this city have for decades of years labored to this end. Every human being in the city knows the necessity. We have been thrice threatened with water famine, and if we have got used to the mud, our visitors have not. Many of them will not even wash in it.

But the danger is not dirt but disease. In our long recent drought the ground absorbed all the sewage and we could drink the water with impunity; but when the first rains fell the surface impurities were washed

into the river, and in two weeks our hospitals and homes were filled with typhoid fever. Our deaths from typhoid fever alone gives us an unenviable notoriety over all other cities of our size. We find ourselves reduced to the necessity of buying a filter and paying to a foreign country the preposterous price of a dollar a tube for a piece of clay that is worth ten cents. And our poor people, the mass of the people, can not afford to own them. Fortunately they can protect themselves better by boiling the water. But they should be spared the necessity of such work. Beside, boiling kills only living poisons.

Our bad water represents our bad politics. The refusal to grant permission to construct new water works hitherto is the expression of a fear of exposing innocent men to temptation. I heard a man say the other day that it would be better to let the authorities steal a million or two than poison a whole community with typhoid fever and other such diseases. But this is not true. It is never better to compromise with that kind of evil. It is better to starve than to steal, and it is better to die of disease engendered by drinking excrement than to countenance bribery in any form. Physical is never so bad as moral corruption. All history shows that though a plague may desolate, it is immorality alone that can destroy a nation. Rome fell, not on account of the plagues, and not on account of the Goths and Vandals, but "because of the failure in the crop of Roman children."

Of course it is easier to condemn than to construct. Some one may ask me to suggest a plan that would be acceptable to the people. Well, I should say that a committee might be appointed in this way: As the first question is that of health, I would have one member a physician; to take care of the legal complication, I would have one member an attorney, and to look out for the business part of it, I would have one member a business man. I would have these members appointed respectively by the Academy of Medicine, the Bar Association and the Chamber of Commerce, and I would give them power to employ engineers, bacteriologists and other subordinates. As the politicians have made a failure of this business for twenty-five years, I would drop them out altogether. Therefore, my plan will find no advocates and will not prevail. Meanwhile, we will continue to drink each other's excrement diluted and die of typhoid fever, while our merchants and manufacturers will hold their annual reunions, and make speeches and congratulate each other on the proud position we occupy among the great cities of the earth!

Daniel Drake was before my time, but he was a great writer and writers are of all times. How well he depicts the chief source of satisfaction to an author, not in the approbation of the public, but in its effect upon himself when he says: "If this work prove a failure as respects public favor, the author will not be without his reward; for he has found enjoyment in the labor of producing it; and having confidence in its general accuracy, knows that it must stand as a great collection of facts, with which future and more gifted medical historians may work."

What modesty he shows in his apology for his work. To those, he says, who are experimentally acquainted with the difficulties attending the acquisition of elementary knowledge in chemistry, geology, botany, and the other physical sciences, without apparatus, with but few books, and no arranged collections, the author need make no apology. "But still it is the sacred duty of every writer to improve rather than corrupt his language. The author performs, therefore, merely an act of justice to himself, when he declares that the imperfections in his style have arisen neither from indolence, nor contempt of public opinion, but from causes which lie beyond the sphere of his control; and, at the same time, it is equally due to the reputation of his fellow townsmen, that he should protest against the reception of this performance as a fair specimen of their literature."

Think of a man of the genius of Drake pleading that his work may not be taken as representative of the work of his fellow citizens in a town of 6,000 people, when he was himself head and shoulders above any other author of his day.

The distinguishing characteristics of great men are said to be, first, sensitiveness; second, imagination; third, industry. You may see how sensitive Drake was in apologizing for the character of his work. His industry is shown not only in the book he wrote about Cincinnati, but in the vast tomes he contributed to medicine. He was at various times connected with ten medical schools in different parts of the United States and actually founded two, one of them, his favorite, in this city. You may get a better idea of the range of his imagination in some of his predictions.

Dr. Drake was among the first adherents to the germ theory of disease. In the year 1832 he published in the *Western Medical and Physical Journal*, of which he was editor, a series of papers on Epidemic Cholera, which were afterward collected and enlarged into a small volume. In this volume he advocates the germ theory and adds that the "brief investigation given to the subject reinspired my respect for an opinion long before expressed, that autumnal (malarial) fever and many other forms of disease might be of animalcular (germ) origin. . . . But I have had," he laments, "neither time nor means for experimental or bibliographical inquiry." One should read the ingenious views which he expressed in support of this hypothesis, which has since his day become established as a fact.

Drake had a parental fondness for the city of Cincinnati, and especially for the institution which he helped to form. Wherever he was, he says his thoughts went back to the city where, in the twelfth year of its settlement, he began the study of medicine, and in which, twenty years afterward, he had labored to found a medical college. In the pursuit of his studies concerning the diseases of the Mississippi Valley, it was necessary to make personal inquiry on the very sites of disease. "In journeyings by day and journeyings by night, on the water and on the land, while struggling through the matted rushes where the Mississippi mingles with the Gulf, or camping with Indians and Canadian boatmen, under the pines and birches of Lake Superior, the image (of the city and the college) was still my faithful companion, whispering sweet words of encouragement and hope."

Thus Cincinnati has had in medicine a heritage to maintain. We are fortunate in having commenced right. Our medical history begins with a man singularly endowed with faculties of the highest order. He had no superior in the country then and we have not had his equal since. Our good forefathers did indeed entertain an angel unawares.

Yandell said once of Drake that his ashes in the cemetery of our city adorned it more than the palaces of our merchant princes. How true this is, and yet

how little it is known! But as in the days of old, when the gladiators entered the arena they had first to make salutation to Cæsar, so any medical man who thinks of Cincinnati thinks first of Daniel Drake, and the writer who would discuss the diseases of the Mississippi Valley must first pay tribute to the work of Daniel Drake.

GEORGE C. BLACKMAN.

I pass by now a procession of physicians, beginning with Goforth, Drake's own teacher, who had, Drake says, "the most winning manners of any physician he ever knew, and the most of them;" by Moorhead, an Irish gentleman of old stock, who died a baronet on his estate; by Reuben Mussey, who came to us from the East and who made a number of capital operations for the first time; by a number of lesser lights along which the eye glances, to be arrested suddenly by a large figure which looms up in the foreground in the person of George C. Blackman.

Blackman, as I knew him, was a man of magnificent build. He was a big, square, heavy-set, substantial man, with a solid tread. He must have weighed 200 pounds or more. His complexion was dark colored, his forehead broad and low. He had a heavy suit of coal-black hair which he would toss back from his face in a moment of impatience like a lion with a shake of his mane. His face was massive and square, his chin was heavy-set and firm, his eyes were large, dark and lustrous, his expression was singularly animated. He had a deep voice, a rich vocabulary and serious mien, which he could change to the light and playful when it threatened to become solemn. He had a singularly fine surgical hand; which expression is a tautology, as the surgeon is the *chirurgien* from *cheir*, the hand. I well remember with what peculiar admiration, almost veneration, we, his first-course students, used to regard that hand. His touch was firm and delicate. He could dissect a bone tumor from a blood vessel and graze but not cut the walls of the vessel. He could amputate a limb in a few seconds. As the boys used to say of another surgeon, "you must be careful not to wink while he does it, or you will lose the operation." And with what a pretty stage trick he would whip out a stone or flip out a bullet extricated from some recess in the body and send it rolling over the floor of the amphitheater amidst a round of applause from the students who could appreciate the delicacy and skill of the work. Ah! You must not think you have all the theatricals on your little painted stage. We have them every day in real life.

He had struggled with poverty, and won fame. Upon his first visit to London he had but $75, and on this he managed to live several months—taking cheap lodgings, studying covered with bedclothes to avoid the expense of a fire, and by the dim light of a tallow candle; two penny-rolls a day constituting his food allowance. A fellow citizen once rescued him from starvation on seeing him gazing with hunger on the bread in a baker's shop. After a time he made the acquaintance of some of the hospital surgeons, among others that of Sir William Ferguson, who inquired at the close of the first interview where he was lodging. Soon thereafter he received a note from Sir William inviting him to dinner. He was fortunate enough to be able to borrow some clothes, his own being too much out of repair, and dressed in them made his way to the house of his host, where he was quite abashed at being presented to some of the great surgeons of the day, among them Liston and Cooper, as a young American friend of whom he had spoken to them.

Blackman did best in the presence of a large audience. Like Daniel Webster, with whom he had some points in common, he could rise to an occasion. You may remember that Webster said when he got up to reply to Hayne on that memorable occasion when the fate of a nation hung in the balance, that he had a moment of trepidation, with a flash of recollection that his brother had fallen dead on a similar occasion, but that it instantly passed away, that he then felt his feet planted like rocks and that everything which he had ever read in history, literature, law or politics unrolled itself before him like a panorama. The points he wanted stood out illuminated in a glow of volcanic light. If he wanted a metaphor he had only to reach out his hand and grasp it as it went "smoking by." Blackman had a wonderful power in seizing upon the points of a case and presenting them strongly and forcibly; and he had such an extensive acquaintance with surgical literature that illustrative or analogous cases seemed to come as freely from his lips, as one of his colleages said of him, "as the water gushed from the smitten rock." . . . "Behind all this was that bold self-reliance, the consciousness of power; he knew what he could do, and he knew that he would do it in the operation before him. No wonder that students listened to every word and looked at every motion of finger or knife with intent interest. His attainments in surgical literature were vast. Probably he had no superior on this continent in extent and variety of knowledge in this department. Several years ago, before Dr. Blackman came West," I am still quoting from Parvin's recollections, "the older Mussey, at a party of eminent professional men in the city of New York, happening to ask a distinguished fellow-surgeon the date and other particulars of the first performance of a particular operation, was answered: 'I don't know; but I will introduce you to a man who does know—Dr. Blackman—he is a walking encyclopedia.'" And he could talk while he worked as no other man could talk without working. I have never known a man who could surround an operation with such a glamour as could Blackman. Glamour is the correct term. He enveloped himself in it, and sometimes he blinded us with it to necessary technicalities. Blackman was the most gifted child of genius whom it has been my lot to know.

JAMES GRAHAM.

Our attention is next caught by a country boy, bright, alert, keen and shrewd, qualities derived from his Irish stock. His father was born in County Down, Ireland. His mother's name was Nelson and she was remotely related to my Lord Nelson. In a little sketch he once wrote of himself, he said that he remembered his mother's parents as being well educated, proud and aristocratic in their bearing. This was James Graham. He had that bearing too. When he came to us Graham was very poor. I remember him myself in a little office in Seventh Street which had a small back room, in which he took his simple repast, crackers and cheese, all he could afford to buy. He came to us friendless and unknown. He raised himself to the highest position that could be reached here in medicine, and held it with honor to himself and his profession for a full quarter of a century;

resigning it at last, under, protest of all his colleagues because he felt that his day was done. One day in his early youth he stood up in a medical society and made a report of a case. His report was sharply criticised, and he defended himself with an ability in singular contrast with his age and experience. A few days afterward a far-sighted old physician, who was conducting a medical college, came to him and requested him to fill a chair in it. The students in the other schools thought it a joke, and they made up a crowd to go and give him a reception. They went down armed with paper balls and other such missiles of juvenile aggression. They came pouring in the door. Dr. Graham was just at his desk and was stopped by the noise. For a moment he was thoroughly confused, then straightening himself up he begged for a few moments attention. Forthwith he commenced his subject and as—stimulated by the opposition—he continued his lecture, he poured forth such a stream of simple eloquence as won every heart. Cheer after cheer went up as he closed. The whole class was won. In a few years more he was at the post he held for twenty years in the Medical College of Ohio.

The name of no teacher of medicine in this city has ever come down with such a bright halo about it as that of Dr. Graham. It is the universal testimony of students of medicine who have sat at his feet while he taught, that he had no equal as a lecturer on the practice of medicine. It was not that his vocabulary was so great. On the contrary, his words were few, but they were so perfectly clear and choice as to convey, with the greatest force, precisely what he meant to say. Dr. Graham was a master in the art of exposition. His style was perfectly simple. He stood straight as an arrow before his class, and spoke, at first gently, winningly, and then warmly, until his face glowed like a poet's, and music fell from his lips. But it was as a lecturer in clinical medicine that Dr. Graham stood head and shoulders above others. It was at the bedside rather than at the desk that he forgot himself in the subject being studied. It was indeed a rare privilege to hear Dr. Graham lecture on a case of heart disease, so systematically and succintly could he make a diagnosis, and so clearly and convincingly establish the principles of treatment. Men who had been abroad and listened to the best clinicians of Europe, would say invariably on their return, "I have never heard the equal of Dr. Graham as a clinical lecturer." Profounder scholars were abundant, more thorough pathologists everywhere, better clinicians none. Dr. Graham had in his prime a keen insight, a woman's intuition, a fine instinct, which enabled him to fix upon the disease at once, and he had, as only the children of genius have, the gift of making it plain to the commonest understanding. The country student fresh from the plow, and the college graduate fresh from the halls of learning, sat with equal pleasure and profit at his feet.

Ars celare artem. It is given to but few men to be able to dissociate themselves entirely from their work, and the ability to make the audience forget the actor is the characteristic of the consummate artist. Once it happened that the two greatest actors of Shakespeare's plays, Barry and Garrick, were playing the same piece, King Lear, in rival houses in London. The people crowded first to one house and then to the other, as such an opportunity to compare notes seldom happens. Some one asked the poet Rogers what he thought of the two performances. Musing awhile, he said:

"The town has found out different ways
To praise the different Lears,
To Barry we give loud huzzas,
To Garrick only tears.

A king! ay, every inch a king,
Such Barry doth appear,
But Garrick's quite another thing,
He's every inch King Lear."

Such an artist was James Graham. He could incorporate himself in his work.

WILLIAM WIRT DAWSON.

During the sessions of 1848–49 and 1849–50 there sat upon the benches of the Medical College of Ohio a youth stoutly built, ruddy with the bloom of country life, endowed with a shock of dark hair, keen, brown eyes and an overflowing vitality, which burst bounds occasionally with an outbreak of mischief; yet withal a good listener, a quick observer and a boundless ambition. The name of this youth was William Wirt Dawson. He was registered from Ohio, his preceptor was his brother, and he graduated with a thesis on compression and concussion of the brain; which is to say that the young doctor had a taste for surgery rather than medicine from the start.

In the faculty at that time were famous men: John Locke, chemistry; L. M. Lawson, pathology and materia medica; M. B. Wright, obstetrics; R. D. Mussey, surgery, and king above all, Daniel Drake, practice. These men made the city of Cincinnati known all over the world. The valedictory address to his class of seniors delivered by Daniel Drake has become part of the medical history of this city. The valedictory of his own class was delivered by L. M. Lawson. It was an uncommon appeal to industry and stability of purpose. "Idelness is a moral imperfection; it debases, prostrates and ruins its victims." Again: "The great key to succes in the pursuit of science is energy and determination." These were the words that made a deep impression upon this dark-haired young man, as he sat clutching his diploma and looking forward into fate. An old physician in the country said once in my hearing: "I always knew that Dawson would get along. He used to work at his dissection sometimes until 4 o'clock in the morning." So the young man was soon handy with the knife, and he was soon familiar with the build of the body of man. The very next year, 1851, he was teaching anatomy in the Medical Institute of Cincinnati, with, as colleagues, Mendenhall, Wood and Comegys, the last survivor in the old galaxy. Within ten years after graduation the young anatomist, just turned of 30, had the chair of anatomy in the college of his birth. That was a pround period in his life, for "to have fame when young is the envy of the gods." He had as colleagues, Graham, Blackman, Bartholow and Wright, and was now winning his way to fame in surgery. When Blackman died the chair of surgery natually fell to Dawson, and there are a thousand men now living who can testify how conscientiously he did his work. They will all say that Dawson was the most painstaking teacher the college ever had. The dullest student could still glibly recite the various lesions of fractures and not even the terrors of the green-room could frighten one of his pupils out of his knowledge of the dislocation of the arm and leg.

We have in Washington the largest and finest medical library in the world. Other nations may boast of

their works of art, their paintings and sculpture and architecture; they may surpass us in every field of literature and of science and in every collection illustrative of these fields. They have finer museums in natural history, finer libraries in every other department, but they can not surpass us in medicine. We owe that collection largely to the work of a man who got his medical education in this city and spent his life in collecting books. The Medical Library at Washington will always be a lasting monument to the labor and learning of John S. Billings.

But I am not to speak of him, or of other men who have gone out from among us, only of those whose lives have been spent with us. This splendid collection of books was packed in the walls of what was once Ford's Theater, the scene of a great tragedy in the history of this nation, a broken down building which finally collapsed and took fire and burried in its ruins a number of people. Fortunately, the medical library had been removed from this building and the precious volumes securely ensconced upon shelves in the fire proof structure, which is one of the many ornaments of our national capital. Now, it is not generally known that the work of securing the erection of this building was done largely by a congressman from the city of Cincinnati, to-wit, John F. Follett; who got the proper assistance from his fellows, or that the interest of Mr. Follett was excited by the unwearying efforts of Dr. Dawson, who being familiar with the inestimable value of the collection and having had impressed upon him the dangerous condition of the building, left no stone unturned in obtaining the coöperation of the proper authorities and securing the necessary appropriation for the new building. Thus was this building erected and the precious collections saved and made available for all time.

Dr. Dawson held every honor which medicine could give. He was one of the standard bearers of his clan. He was the soul of truth. He held quackery in abhorrence. He helped his fellows in distress. He was gentle to children, chivalrous to women, and upright and just in his dealings with men.

CORNELIUS G. COMEGYS.

Dr. Comegys, to whom I have alluded as the last survivor, has just died. He was the most beloved man in our profession, both in and out of it. Comegys was a big, broad man who had climbed, by hard work, to a point of broad survey. He had great ambition,and was busy with schemes day and night to such degree as to be regarded almost as a dreamer. But his ideas ran always in the line of progress, always onward and upward, and he kept his eyes so constantly fixed upon the goal as to be unmindful of the obstacles in his way. Some of his practical friends considered him visionary. He did really see visions, but always of things more perfect and pure than those by whom he was surrounded. Comegys was an embodiment of integrity, purity and truth. Like Schiller, he believed that every man has opened out before him two courses; one leads to the ideal, the other to death. But Comegys could never see anything but the course toward the ideal. By hard work and much self-sacrifice he made himself a fine scholar. And all his life long he strained his abilities to their utmost capacity in the service of his fellow man.

Hear him as he marks out the career of the physician: "We march with armies to care for the footsore and fevered soldier, and follow him, too, through the thickest of the fire, not to aid destruction in her work, but to staunch the wounds she makes. It is not the trumpet call, nor the roar of battle that arouses our activity in the great conflict; but the cries of the wounded and dying—the appalling ruin of the field that inspires our enthusiasm amidst the dark splendor of war. The call of the distressed by night and day incites our energies and supports our weariness. Not only in crowded places, where the ways are easy, but in sparsely settled regions, amidst the sharp vicissitudes of the seasons, by lonely paths or in mountain defiles, unmindful of the tempest, we plod our weary way, the perturbations of our anxious hearts keeping time with the fret of the storm. On every hand, infirmity, sickness, helplessness, fearful casualties, bereavement, despair, death; hoping to strengthen, hoping to assuage or to avert, our days are occupied; sustaining the hopes, the agonies, the distresses of society, our responsibilities are momentous, our burdens are often too heavy to bear."

Hear him again as he pleads for the protection of the people against the frauds and wickedness of the quack. "When the human mechanism becomes deranged, and a great contest is set up between the forces of disease and the vital forces, who shall attempt to interfere—the man who has made these laws a study, who knows the operations of their final causes, who comprehends as far as science has shed light upon the subject, their special and general operations, or the man who is ignorant of the entire mechanism, and laying aside all such labor and investigation, attempts to rescue the suffering system by remedies which, according to his gross views, have been successful in a similar case? An irreparable injury, or even death itself may be the result of this ignorant interference, and what atonement then does the prosecution of an irresponsible man afford?

"In regard to medicine, everyone" he continues, "must look out for himself. With the same indifference, we ought not to have a standard of weights and measures, nor a fixed value of coin, nor protection against issues of paper money. Let every one take care of himself. No man can assume to be a respectable minister of the gospel without the license of a church organization; no man can practice law without an approved examination before a court; no man can teach without a certificate of qualifications; no man can sell goods or peddle goods, or drive a dray or a cab, or an express wagon, without registering and a license. The public is defended from the impositions of the hackney coachman, but not from the quack doctor and patent medicine vender. No man is believed to be a carpenter, or a machinist, or a master in any other profession, unless he has served an apprenticeship to it. Then why, I ask, in the name of honesty and civilization, when we come to consider the human frame, the most wonderful structure of God, the divine idea of mechanism, in whose structure a thousand wonderful and complicated actions are in play, many of whose laws, after more than two thousand years of investigation, are still unknown, why, I say, do our governments surrender this beautiful structure to be prostituted to the mercenary practices of charlatans?"

A large part of his life was spent in an appeal for legislation to improve our sanitary conditions and to subdue the curse of quackery. He read, he plead, he labored for the creation of a Minister of Health in the Cabinet Department at Washington. He had

personal interviews with the President, and it is to the credit of the strong good man who now occupies this chair, that he listened to him with interest and was not unmoved by his argument. But it was thought that the time was not ripe. It certainly must come soon, and when it comes there will be general lament that the man who was best fitted to fill the place first, *ivit ad plures*, had gone before.

Comegys kept his youth to the last; he was interested in medicine to the very last day. "We must talk over the scheme of the University," he would say to me whenever I chanced to meet him. He could discuss any subject in medicine with any of the younger men, and with what freshness and philanthropy! In the discussion of the fresh air treatment of tuberculosis at the Academy, only yesterday it seems, he told the story of a young man who had recently consulted him. He had to say to him that his case was hopeless here and to advise him to seek change of air. "But," said the young man, "I have no means even to buy a street-car ticket." Dr. Comegys informed him that money was not necessary, that he should start and walk to Atlanta and beg his way. He would give him, he said, a certificate of his condition and everybody would help him on the road. He could travel like a German student on his *wanderjahre* and no one would refuse him food. "Silver and gold have I none, but such as I have give I thee."

Comegys had the pure spirit of discipleship. This is what he said once of one of his teachers and in the presence of him in a public address. It was in the last days of George Wood, and the occasion was a speech which rightly made him famous before the Alumni Association of the University of Pennsylvania. The Academy of Music was crowded with the *élite* of Philadelphia, for in that city the people still take deep interest in medical affairs. The old master sat on the stage, the central figure in a flood of light, but there was a shadow in front of him, the dark line of the scythe of the reaper, who was even then standing close behind his chair. "Venerable and remarkable man! Who, without ever laboring for fame, has received it; who, without ever climbing for great stations, has been lifted into them, and no man ever suspected his capability for them or envied him his well-merited success."

"Over a vast sea, beyond all storms," he continued with his apostrophe, "I behold a barque slowly moving through sluggish waters, borne so gently by the breeze that fills the stiffened sails that not a ripple breaks upon the heavy waves. Serenely stands the stately master at his post, steering for the last harbor. Somber and shadowy is the scene about him; yet across yon headland comes a rosy tinge of sheen, lighting up the tranquil face of the lone voyager who seeks the port of peace."

These are the men who for three-quarters of a century have borne the standard of medicine and surgery in the Queen City of the West. You may not point out in other fields greater purity of purpose, sacrifice of self, usefulness to others, than these lives have led, or show sentiments more sublime than these ideas have expressed. And the rank and file which followed, though failing from lack of opportunity or ability to express themselves in the same way, have led the same lives and held to the same ideals.

The memory of them inspires us. We, too, believe in necromancy as we know that wisdom and inspiration come from consulting the oracles of the dead. It is as Ruskin said: "The grave is the best pulpit; the voice reaches farthest from the grave."

In contemplating the lives of these men the young physician may well be proud of his profession. When Correggio stood before a picture of Raphael, he cried: "*Anch' io sono pittore*," I, too, am a painter! And Byron, when he stood by the tomb of Galileo, exclaimed: "He was one of us."

There is in this city a band of men, mostly young men, who devote themselves wholly to helping their fellow-men in sickness and pain. For the most part, they have no motive in this work other than that of humanity and love of science. No other set of men may be compared to them in the disinterestedness of their work. Even the clergyman is sometimes sensitive about his particular faith; at least there is irreparable breach between the main divisions. The attorney must sometimes actually pervert the truth and try to defeat the ends of justice. Many of our statesmen have reversed the motto of Pitt, and work for themselves and not for their country. The laboring man works for nobody for nothing. He actually can not afford to, and he must charge for every moment of his time. The physician does much of his work for nothing; for years most of it.

These young men worked for humanity and science at first, but lack of appreciation and disappointment will change some of them. It is true that in after life the sense of the lack of appreciation is for the most part disappointed vanity, but it is different in youth. A few of our young men will persist and succeed without it, but some of them for lack of it will be reduced to the necessity of working for lower motives, will lose courage and zest in life, and a few, fortunately only a few, will strike their colors and betray their trusts. The fault will not be wholly with them; some of it will be with you.

If worth met with the same appreciation as wealth, what a stimulus it would be to virtue and invention! It should be so in a Republic. If it were so, how much more our civilization would surpass that in what we are pleased to call the effete monarchies in Europe. It was so in Greece, and the literature of Greece still rules the world. It is so still in medicine, for medicine is of Greek origin. If it were so in the world at large, what a support it would be to young men. But as it is they often see the prizes drawn by pretenders and quacks. If the young men see patronage going to quacks, what is the stimulus and incentive to work? Carlyle tells the story of a cobbler who was drunk all the time and whose wife and children suffered in consequence. But people patronized the drunken cobbler on account of his wife and children. Next door was an honest, thrifty, reliable workman, who had no patronage because he had no suffering wife and children. Finally, he became discouraged from lack of work and took to drink. There is everywhere vicarious suffering beside that which was endured on the cross. The patrons of quacks contribute to it. No person can take a front rank in any good society who patronizes fraud in any field.

The worst of it is that young men are, by lack of appreciation on the part of the public, discouraged from prosecuting scientific inquiry. See then how badly such neglect reacts. Bacon said long ago: "For in all times in the opinion of the multitude witches and old women and impostors have had com-

petition with physicians. And what followeth? Even this, that physicians say to themselves, as Solomon expresses it upon a higher occasion, 'If it befall to me as befalleth to the fools, why should I labor to be more wise?'" And so is a community degraded. The people are prepared to regard an epidemic as a visitation of Providence. They are taught to look with distrust upon physicians. They are ready, without ever having seen one, to condemn vivisection, and many physicians themselves become only too ready to regard a disease as incurable. So inquiry is stifled and ignorance is exempted from disgrace.

Omne ignotum pro magnifico, whatever is mysterious is wonderful. The crowd gapes with wonder at what it can not understand. The truth is, there is no subject concerning which man is so ignorant as the phenomena of nature about him. The mass of men have never been instructed in the physical sciences. Though they have the mind to comprehend they know nothing of astronomy, geology, chemistry, biology, and everything unknown is mysterious. But even people who have the advantage over their fellows in being somewhat informed upon these subjects, are ignorant of the construction and action of their own bodies. Consequently they, too, gape with wonder and are satisfied with the declaration that man is fearfully and wonderfully made. These people do not even understand that the study of anatomy, physiology, biology and materia medica rests upon the same laws, and that conclusions are reached in the same way as in the study of any other of the natural sciences. So that even intelligent people support quackery. A lawyer who will talk wisely about the capability of a witness, or who will sift testimony to the last point, does not hesitate to recommend a remedy for a disease, of the nature of either of which he knows nothing at all. As for the clergy, we are fast becoming acquainted with their physiognomies in the newspapers in recommendation of the virtue of quack medicines. So far as I have seen there are not more than two or three religious papers issued in the United States which do not largely subsist upon lies in recommendation of quack medicines.

Of all the studies of science, none is so difficult, so recondite as that pertaining to the body of man. The physician learns first, and as the most important lesson, caution. He holds in daily repetition the maxim of Hippocrates, *nil nocere!* whatever you do, do no harm. His new discoveries are all made first in the field of experimentation. He works with the lower animals, one after another, and after three or four hundred experiments upon the lower animals, he begins cautiously upon the body of man, often enough upon himself, and so establishes gradually first the safety and then the virtue of a remedy. What does the charlatan know about this difficult science of medicine? What does he know about the construction of the body, the uses of the various organs? What does he really know about the nature and action of the remedies? The truth is, he does not even care to know, and individuals of this brutality are allowed to practice medicine. If people could only know that the remedies in materia medica are selected with the greatest caution as a result of studies by botanists, chemists and biologists, that active principles are extracted in the greatest purity, and that only such preparations find their way into the materia medica, with what aversion and horror would they not look upon the crude mixtures of quackery, and with what recoil would they not regard the charlatans themselves!

The best botanists, the finest physicists, the most accomplished chemists, are ransacking every field of nature day and night to find something new in the treatment of disease. Why do the new rays fascinate us at once? Because we hope with them to see into the body of man. Do you think that if there was any virtue in any quack medicine the physician would fail to use it? "The cunning workman never doth refuse the meanest tool that he may chance to use." But he knows there is nothing in it. It is strange that a shrewd business man or a skilled artisan, who would look with disdain and contempt upon any pretense of discovery in his own field by men who know nothing whatever about the subject, will seize with avidity and will not hesitate to recommend some new remedy, though advocated with claims preposterous enough to be absurd. But the absurdity is not the least of it. The drug is dishonest. The man who makes the claim is the forger who passes counterfeits. If the truth were known every vendor of quack medicine is really liable under the law which imposes a penalty for obtaining money under false pretenses. No society can take high rank which offers its patronage to such men, and no government can prosper which puts its authority in such hands.

We have two classes of quacks, fools and knaves. To the first class belong the half educated, the dreamers, the metaphysicians, the fanatics, the individuals who practice according to a set dogma, who believe only in the administration of minerals or of vegetables, the speculators, the spiritualists, the faith cures, the pseudo-scientists. No advocate of any such branch of metaphysics can make his doctrines plain to any intelligent man. These are the people that believe that medicine cures by some secret dynamic principle, mysterious, undiscoverable, and of course undemonstrable, or who preach the arrant nonsense that a drug acts most powerfully in the smallest possible dose. All these quirks and cranks, and hundreds more that might be named, have their day. They come and go. One substitutes another. No one of these we now have, allopathy (if there be such a thing), homeopathy, eclecticism, vitapathy, or what not, will last another half century. But things similar, things false will always be, and the unmasking of any of them is a thankless task, because *populus vult decipi*, the people want to be deceived, and, as Emerson says, we do not like those who unmask our delusions. It is a strange thing that so many people will turn away from the light and prefer to grope in the dark, and that most men "will take no notice of what is plain before them, but will puzzle themselves in abysses which no understanding can fathom." As Carlyle says, our greatest business is not to see what is dim in the distance, but what is clear at hand. When these people see the truth they do not know it, or are so attracted by half truths as to be led astray. Sometimes, like Buridan's ass, in the midst of plenty they die of starvation because they can not see clearly enough to decide. Buridan maintains that if an ass could be put between two haystacks of exactly equal attraction, he would starve to death, as there would be no reason to prefer either one.

This is the class of people who wear us out with trifles and who make life a burden in drawing distinctions without a difference.

> "People who could distinguish and divide
> A hair 'twixt south and southwest side."
>
> "And weave fine cob-webs fit for scull
> That's empty when the moon is full."

And who spend hours in trying to determine

"How many scores a flea will jump
Of his own length from head to rump."

And this class of people, sometimes with the best intentions, do the most incalculable mischief, and all the more mischief because the intention is good. I often hear urged in support of some such a doctrine that the advocate was so earnest and honest. This fact only makes the doctrine more dangerous. "Nay, I believe," said Ruskin, "that metaphysicians and philosophers (speculators) are on the whole the greatest troubles the world has got to deal with; and that while a tyrant or a bad man is of some use in teaching people submission or indignation, the metaphysicians are always entangling good and active people, and weaving cobwebs among the finest wheels of the world's business; and are as much as possible by all prudent persons to be pushed out of the way like spiders."

If it could be known that the study of medicine is based upon natural laws and conclusions may be reached only as in the other sciences, there would be no room for the different so-called schools of medicine. There is really only one school, and that is the treatment of disease based upon a knowledge of the construction of the body, the uses of organs, the derangements which they undergo, that is, the diseases they suffer, the nature of remedies and the effect of remedies upon disease. That is, medicine is a study wholly according to natural laws, laws which are brought to bear in the study of all the natural sciences. These things are not matters of faith or belief, but of demonstration. True, the demonstration may not be made in all cases as accurately as in the arts and manufactures, because the human body is much more complex, but the effort must be made in this direction, and progress is possible in no other way. Studies in any other direction run into metaphysics, dogmas, isms, ologies and pathies. Not any one of these fancies has contributed anything to the treatment of disease. People think about the schools of medicine as about the sects of religion. But nobody claims that religion is a matter of demonstration. Religion is a matter of faith or belief. Medicine should rather be compared with law. There is only one kind of law, that which represents the wisdom of the ages. This law secures for us society, government, civilization; anything else is anarchy. There is only one school of medicine, that which is founded upon the study of the body, its diseases and the action upon them of remedies. Anything else is quackery. New systems of medicine, forsooth! Suppose a man, or a set of men, proclaimed to you that all your present ideas of astronomy were wrong, that the Heavens were covered in with blue flannel perforated and that what we take to be sun, moon and stars were only openings in the cloth for the penetration of light from the other side! What would you think of it? Well, that is exactly what is true of the so-called new systems of medicine. They are, if not open frauds, nothing but delusions of diseased minds.

Nevertheless, between the fools and the knaves, between the individual who is himself deceived and the individual who makes it a business to deceive others, there is a wide and deep gulf. Immeasurable indeed is the gulf between the men who blunder along knowing little but trying to do right, and men who purposely wreak wrong for personal greed.

The metaphysician is a man who is looking for a grain of wheat in a bushel of chaff. We may regret the expenditure of so much time for so little reward, nevertheless, we may recognize that he is not off the track of virtue. We feel for him pity rather than contempt, and his efforts are greeted rather with a smile of amusement than with aversion.

How infinitely lower and more abhorrent is that class of men who see in human suffering only a chance of making money, and who do not hesitate to continue it and increase it by deceit and fraud, by the cunning of the quack and the brazen lie of the charlatan.

We come now to the class who live only upon lies. These are the individuals who make money by misrepresentation and fraud, and who actually speculate upon the sufferings of their fellow-men. Every community is infested with quacks, our community the worst of all, as our State has only just passed a law which protects the people against the vilest impositions of quackery, and this law as it stands is so little better than an indignity and insult to honesty and intelligence as to be endurable only on account of the promise of future good.

Sometimes the quack is an ignoramus who really believes for a time in the virtue of his preparation. But not for long; sooner or later the most stupid quack comes to know that his remedy fails. Nevertheless, he does not hesitate to plaster the walls, to publish columns in the papers, to fill the spaces in street cars and in every possible way obtrude his wares under the most gross and wholesale misrepresentation. His liniment will cure every case of rheumatism, his balsam every kind of cough, his salve will cure every sore, his bottle will in fact cure every disease. He can by the thousand furnish testimonials to this effect, and he can find people who have no other road to fame, who are willing to allow their faces to appear in the daily papers in recommendation of his wares.

Now, the fact is, everybody really knows these statements to be false. But so strong is the fear of interference with liberty of action that the quack is allowed to trade upon the sufferings of his fellows. People content themselves also with the belief that the remedy at least can do no harm; they say this especially of the infinitesimal dose. It must be remembered that the lie which is half truth is always the worst of lies. All falsehood degrades; every liar is an enemy of society, and the concealed enemy is worse than the open foe. A community may preserve itself only by turning its back upon every form of falsehood. It is not only the article of pure food and the pure drug which should be stamped with its proper value, but the brand should be put upon every kind of impurity. "The shortest way to check the downward forms of deceit is to set watch more scrupulous against those which have mingled unregarded and unchastised with the current of our life." If these patent medicines and quack medicines could be stamped with their true value, not one of them could remain, and if the individuals who now roll in wealth, some of them, could be punished according to the suffering they have caused, by commission and omission, they would be serving terms in penal institutions.

The people who believe that these remedies at least do no harm, forget that sins of omission are as bad as sins of commission, and that a remedy has control over a disease only at the start. A child can be protected against smallpox during the prevalence of an epidemic, only by being vaccinated within three days after exposure, or can be absolutely rescued from

diphtheria by the antitoxin only within three days after the onset of the disease. Most cases of consumption can be recovered from within three months. These opportunities are lost under the use of quack medicines. The vampire, in its original conception, was a dead man restored to life but without soul and with only life enough to suck the blood of its victim when asleep. In zoology the vampire is a bat which sucks the blood of persons and beasts when asleep. The consumption quack are the vampires which feed upon the slow tortures of this disease.

The true remedies of the materia medica are selected with the greatest care. A committee of the best men from the departments of medicine and pharmacy are chosen to supervise the purity of the preparation, to extract the active principle, to eliminate all crudity and impurity. This is never the case with the quack medicine. If the people could only know how vile are many of the preparations, how at least crude are many of the drugs, or even how cheap is the actual cost of the material, a few cents, perhaps, for which they pay a dollar, they could easily appreciate the indignation which exists in the minds of the men who know these things. And all the while the law in our country supports quackery. It is different in the older civilizations of Europe. The patent medicine must be registered, the exact composition must be given, and the people are thus protected against injurious preparations. Medical men owe it to their fellow-men: to drive these desecrations from the temple. The way is easy. It is only necessary to light up the dark holes with the blaze of truth. Let the evils of the remedies be shown up. The quacks are pretty quick to hide when pursued. In the presence of a real epidemic all quack remedies disappear. The "vitaline" craze ran over the whole of Russia a few years ago. Everybody was having themselves injected with this powerful rejuvenator and renovator. It was like the days of Mesmer. The streets were not wide enough to hold the vehicles of the people of fashion. They tried to persuade the Czar to have his son injected. Finally, they did experiment upon the body of General Gressner, who directly died from the effects. Then, when the charlatan was brought up for manslaughter, he took refuge under the employment of a dirty septic syringe, and when the nature of the remedy had to be disclosed to save his neck from the gallows, it turned out to be nothing but borax and glycerin.

You remember the St. John Long craze that ran through London a few years ago, and the editor of one of the leading magazines took it up. At last, when a great sloughing mass was formed, and a patient finally died of septicemia, and St. John Long was prosecuted for manslaughter, he hid himself from justice with the claim that his remedy was nothing but turpentine and vinegar.

Twenty-five millions of dollars a year are spent for quack medicines in this country! Some time ago it happened in this city that a rich man fell into financial distress. He wanted money and he wanted it quick. To protect himself from bankruptcy he must raise a large sum in three months. He had had some experience with quack medicines before. He picked upon a popular preparation of this class, and learning that it had not been advertised in three of our Western States, flooded the country with the imposture and made the necessary sum of money. But if an epidemic disease had been turned loose upon those innocent communities, if the hot breath of a pestilence had passed over the land, it could hardly have done the people more harm.

Then, to say nothing of the actual physical damage, the injury to health, the breaking of spirits, the misery which goes with disease, look at the degradation of morals which results from a success of this kind. How wide-spread is the evil influence of fortunes made rapidly by fraud in any field.

And aside from the effect upon the health and wealth of a community and the general effect upon society, see the degrading effect of quackery upon the individual himself. Falsehood puts a brand upon the forehead of a man. He may wear his hat so low in public that the people may not see it, but some of his fellows know it to be there, and when he reaches the privacy of his own home and takes off his hat he sees it in his own face. He knows himself to be a charlatan; that is the worst of it. "Money answers everything, save a guilty conscience' sting." Emerson says that the time comes in the life of every man when all that he has he will lay down for right relations with his fellows. "Boss" Tweed was at the height of his power when he had bought the senators of his State at $10,000 apiece and had himself surrounded with a crowd of sycophants and flatterers. But life had long since lost its zest. He had a disgust for it and for the parasites about him, and I doubt not that the Tombs were at last a not unwelcome retreat. The time comes in the history of these men, when, as Horace said of condemned criminals, Sicilian dainties will not please their palates and the melody of birds and harps will not bring back sleep. "Reputation, reputation, reputation, oh! I have lost my reputation. I have lost the immortal part of myself and what is left is bestial."

Witness also the degrading effects of quackery, even upon those who only indirectly or more or less innocently deal with it. Many of our drug-stores are stuffed from attic to cellar with quack medicines and patent preparations. And it is a notorious fact that where these products most abound the finest elaborations of the materia medica are not to be found. Some of the druggists, seeing the ease with which fortunes are made by these worthless preparations, are finally led to take a hand themselves. They do not hesitate to advertise Smith's sure cure for epilepsy, Jones' certain remedy for catarrh and Brown's infallible treatment for consumption. And so the druggist who has had the benefit of a classical training in chemistry, is degraded from a skilled pharmacist into a huckster, who not only handles, but recommends worthless goods; and our "honest apothecary" is not ashamed to advance claims which he knows to be false and to take money which he has not earned. Something of the degree of this degradation we learn in the bitter protest made by some of our druggists against the prosecution of the sale of impure drugs, and the insensible obtunding of the conscience is seen in the plea of a certain number to be allowed to brand and sell goods below the standard of purity.

If it could be that only the charlatan suffered, or the individual who believed in what he is pleased to call free latitude of medical practice, the effect would not be so bad. Perhaps it might result in good in securing more rapid extinction of this class. Unfortunately, however, the victims are found in the innocent members of the family, in the little children, upon whom the mischief is wrought both by commission and omission. Some time ago it happened that the

president of the Anti-vaccination Society of London lost his wife and all the members of his family, one after another, during an epidemic of smallpox. Thereupon the man committed suicide. There was general lament that the suicide had not been done first.

Twenty-five million dollars a year are spent for quack medicines! What could be done with that money if invested in medical education? What untold pains could be quieted, what unspeakable misery could be relieved! Look how a little money invested in the study of cholera in Prussia saved us millions a few years ago, and probably shut out cholera from our shores for all future time.

Would it be considered any justification for quackery that the fortunes which have been thus amassed have been used to build churches, erect hospitals and endow orphan asylums by men

> "Who think for life-long evil to atone
> By building monuments in stone?"

Is it possible to merit heaven by making earth a hell?

Look now upon this picture and then upon that! On the one hand fraud, deceit, degradation, perhaps with wealth. This is the quack. A *monstrum nulla virtute redemptum*. On the other hand purity, self-sacrifice, the highest philanthropy, perhaps with poverty. This is the true physician.

One of his pupils said of Parkes that he never followed him about the wards without feeling that he could become better, with an intense wish to be so, and Romney, the artist, declared that if he wanted to make a representation of the compassionate benignity of the Saviour he would paint the face of the elder Guy. "There is to me," said Sala, "an inexpressible charm in the lives of the good, brave, learned men whose only objects have been and are to alleviate pain and save life."

Look now upon this picture then upon that! The mission of one brings him nearer to the gods; the acts of the other are close to those of the fiend. On the street, in common parlance, they are all doctors. Will you not at least help us to draw the line? Into the hands of which men will you commit the medicine and surgery of the Queen City?

ORIGINAL ARTICLES.

THE MECHANISM AND DIAGNOSIS OF TRAUMATIC CEREBRAL LESIONS.

Read at the Second Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Ill., Sept. 25-27, 1895.

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In this paper I wish to review the mechanism by which traumatic lesions in the brain are produced, and the means by which an exact diagnosis of the seat of the lesions must be made.

Until recently it has been considered justifiable for the surgeon, after having made a gross diagnosis of fracture of the base, "compression" or "concussion," to stand by and see his patient die, or become the subject of epilepsy, insanity or permanent paralysis. Medical literature is filled with cases illustrating the natural results of these injuries, following the "expectant" treatment. From them, one quickly learns how slowly and imperfectly nature repairs the lesions, and how far reaching are the after effects. Some have questioned whether a cerebral injnry is ever completely recovered from.[3] The evidence is now complete, that various forms of insanity, in many cases, originate in and are directly caused by a neglected injury to the brain. This has long been known of epilepsy and various motor and sensory disturbances. In a recent paper read before our Jackson County Medical Society, I reported in detail ten cases of cerebral injury, showing forms of mental derangement, from simple loss of memory, to persistent irritability of temper, melancholia, delusional and moral insanity and mania, all the direct result of intracranial injury. Most of these were due to old injuries; some submitted to operation and were relieved, others not. But the recital of the cases was not so much for the purpose of calling attention to the results of late treatment, as to the fact that symptoms of such nature had resulted from an unrepaired intracranial injury. To show how infrequent interference is in these cases, I need only quote the statistics recently furnished by one of the best hospitals in the country.[4] In six years, 308 cases of severe head injury were treated with 115 deaths. In twenty cases fragments of bone were removed and in 24 cases only was trephining done. Eighty-two of the cases were characterized as "Fracture of the Base," of which 60 died. Three of the 82 were trephined, two without success and the third was successful in opening into the seat of the hemorrhage, but the vessel was not secured and death followed in twenty-one hours. No report is made as to the condition of those who survived. Thirty-two cases, excluding the gunshot cases, came to autopsy and showed extradural hemorrhages in thirteen, which the report comments on as "a larger proportion, of localized extradural hemorrhages than is generally appreciated."

I can not dwell on the necessity of repairing at once and as completely as possible, the effect of an injury to the brain or its coverings. All will I think, acknowledge the desirability but question the ability to locate most of the lesions when recent, and even if located, to relieve them. Apparently little effort has ever been made to get at the basal extradural hemorrhages which comprise such a large proportion of the fatal cases. These extravasations remain fluid for hours after an injury, and the suggestion is directly at hand, that the pressure could be taken off a well localized mass by a carefully directed aspirating trocar or needle introduced directly through the brain mass, as well as by an opening at edge of base and separating the dura. It is not my purpose however to enter into treatment.

It must be acknowledged that the exact diagnosis of recent intracranial lesions often presents a most complex problem. The real difficulty does not lie in the interpretation of symptoms, for these are often complete and conclusive in their indications, but rather in the lack of data furnished by an unconscious patient. There are facts however which may be obtained under the most disadvantageous circumstances, and these are sufficient in the majority of cases to lead to a correct diagnosis. It is always to be kept in mind that the absence of symptoms is as significant and possesses as much logical force as their presence. Also that the brain is not unlimited, hence a localization by exclusion in the absence of a direct diagnosis, is permissible.

Let us take first the mechanism by which the lesions are produced, and then the resulting symptoms with

special reference to their localizing value. The first effect of a blow is received by the scalp, which may be cut, bruised, lacerated, or when protected, may show no evidence whatever of a serious lesion beneath. It is always to be carefully examined for such evidences as it may furnish. It is the most direct avenue for infection, leading to important and often disastrous secondary changes, and on that account is worthy the most painstaking care of the surgeon.

The effect upon the cranium is determined by the force of the blow, and the curve, thickness and density of the bone. The character of the injury can often be inferred from the nature of the accident. In a general way it may be said that it is dependent on the velocity and concentration of the force. When the velocity is great, and the force is concentrated, the effect is most marked at the seat of impact, as when a bullet strikes the skull. But when the force is disseminated and of slow velocity the effect is generally most marked elsewhere, as when a man receives a blow from a sand bag.

With the exception of the fracture at point of impact, which may be depressed, cranial fractures are linear and almost invariably run toward the base, following the curve ef the shortest radius and in the line of least resistance. That this is not invariably true is due to the fact that in some instances the force is so applied as to force the fracture to follow a long curve, as in compression of the skull from the sides. The so-called fractures by *contre coup* are no longer to be considered possible.[2] The only way in which the skull can be injured on the opposite side, is by injury against a resistance which is really equal to a second direct blow. This applies to the brain also, which is often injured by being bruised through its impact against the skull.

Most of the linear fractures have no importance in themselves, and it is unfortunate that modern surgery still classifies head injuries under "fracture of the vault," "fracture of the base" etc., as though these were important. The close association of such structures as the facial nerves, the middle meningeal artery and branches and the sinuses makes it necessary to estimate as closely as possible their direction and extent. It should also be borne in mind that extensive fractures can not be received without grave injury resulting to the cranial contents as a result of the same force which produced them. But a depressed bone in itself does no harm, were it not for the injury it inflicts on the parts beneath. It is the brain and its nerves which are of importance, and which must be considered from first to last. This has been formulated in the statement that "all cases of head injury should be estimated primarily with reference to the amount of damage which the cranial contents have received, and secondarily with reference to their becoming involved."[3]

The brain is a soft solid, permeated with tougher blood vessels, and poised on a water bed over a very rough and irregular base. This water bed of cerebro-spinal fluid surrounds the hemispheres and is continuous with that in the spinal cord. At the base of the brain, it varies much in depth, owing to the irregularities forming the so-called lakes. Inside the brain the ventricles are filled with the same fluid, and each blood vessel in the brain is suspended in a double lymph space also filled with the same fluid. Between the muscularis and adventitia of all isolated arteries is the adventitial lymph space of Robin, and outside of this, between it and the limiting membranes is the perivascular space—or space of His. Any increase in the size of the vessels takes place at the expense of the fluid in one or both of these spaces—and as the skull is a closed box, it is conversely true that anything which displaces this perivascular fluid, must be attended by an increase in the size of the vessels, or rupture. Moreover not only the nerves but the nerve cells themselves, lie in spaces filled with the same fluid which connect with the perivascular spaces.

The fluid on the outside of the brain is directly continuous with that in the spinal cord, but that of the subarachnoid and intra-ventricular spaces is only communicable through the small foramen of Magendie at the fourth ventricle, the so-called cerebro-spinal opening. It is this cerebro-spinal fluid which plays the most important rôle in traumatic intracranial lesions.

The other factor is the elasticity of the skull as a whole. This varies greatly from infancy to old age, but must be most marked in the young adult skull with firmly united sutures and a large amount of animal matter in the bones. If dropped from a height on the floor such a skull will rebound like a ball. The interosseous membranes prevent the infant's skull from having the solidity necessary for such a rebound, and the brittle bones of old age break too easily, so that the problem varies somewhat at the extremes of life. It has been shown by Felizet[4] that the adult skull, when struck a moderate blow, yields under it, forming what he calls the "cone of depression." It is similar to what occurs in a billiard ball or a bell when struck. The blow compresses the billiard ball in one diameter and it lengthens in the transverse. As it rebounds the long diameter becomes the short one and the short one lengthens, and this continues, the alterations becoming continually more feeble until the force is spent. This causes in a bell what we call its tone, which is long drawn out because its edge is accurately round and hangs free so that nothing interferes with the vibrations. But in the skull the effect is necessarily of short duration, the vibrations being quickly interrupted by its buttresses, irregularities and attachments.

Under these premises, what happens from a blow on the head? Let us say for simplicity, that it is not sufficient to produce a penetrating wound. Under the blow the skull is momentarily depressed—lengthens in the transverse diameter, and rebounds, becoming elongated in the diameter in which the blow is received. The bone may or may not be fractured. If depressed beyond a certain point it can not rebound and we have a depressed fracture. The fissure in the bone may involve vessels or nerves in close connection with it, leading to immediate hemorrhage or paralysis. The sudden depression of the skull drives the cerebro-spinal fluid forcibly from under it, and superficially it must spread laterally into the areas where the diameters are elongated—and what is not thus accommodated is forced into the perivascular lymph spaces, or forcibly injected into the spinal column.[5] This explains how we can have a lesion of the spinal cord from a blow on the head. The quick rebounding of the skull tends to leave a vacuum at the four diameters where the maximum of motion has been, *i. e.*, at the point of the blow, diagonally opposite and at the two points at the extreme of the transverse diameters. Now the impetus given to the cerebro-spinal fluid is such as to send it out of the way, and the reflux of the fluid is relatively slow, so

that we have the vessels left without support, and they give way under the strain at the four points mentioned. Thus are accounted for the extradural and sub-dural hemorrhages.

That which happens in the brain is exactly analogous to that which happens in the cerebro-spinal fluid lying outside. The impetus of the blow received on the vault tends to drive the fluid from the larger ventricles into the smaller, from which there is no escape except through the small opening of Magendie.

All the perivascular lymph spaces receive the same impetus, and momentarily the blood vessels and nerves are unsupported; thus occur numerous minute intercerebral hemorrhages into the nerve sheaths, which are found as constant factors in cerebral injuries. The sudden intense distension of the fourth ventricle often results in rupture of its walls. In this way are accounted for the well-known glycosuria which so often follows cranial injuries; also cases of immediate death from laceration of the vagi at their roots. The rush of the fluid through the foramen of Magendie into the spinal cord is sufficient to irritate and often to lacerate the restiform bodies in the bulb. It has been experimentally found that mechanical irritation of these bodies, produces a reflex anemia of the brain, attended with all the symptoms of the so-called "concussion."

Also the evidence of many autopsies points to them as the seat of the fatal lesion, so that the conclusion is irresistible that the opisthotonus, spasms, rigidity and other symptoms joined together under the name of concussion, find their explanation in the irritation of the restifirm bodies, by the cerebro-spinal fluid as it is violently injected into the spine.[6]

The brain mass itself, deprived of the protection of the cerebro-spinal fluid, is lacerated at the site of the blow, and on the opposite side through its own impetus against the bone. When the impulse is downward, it is found that the resulting injury against the jagged projections in the base are not more marked than against the smooth and rounded vault. These act like the elastic falx and tentorium which are stretched like sails in different planes between the cerebral masses, and take up a large portion of the force, directly preventing the impinging of the proximal half of the brain upon the distal portion and against the opposite bony wall. It is interesting to note that the tentorium is ossified in some animals, whose brains are built on the fore and aft plan, *e. g.*, cats.

All possible primary lesions thus consist of, 1, the fractures in the skull and rupture of nerves or arteries and sinuses in close connection with it, with their resulting hemorrhage; 2, lacerations of the cerebrum, basal ganglia and the underlying nerves; 3, hemorrhages into the brain substance, nerve sheaths and basal ganglia and edema of tissue adjacent to those parts pressed upon. Of these three sets of lesions, localized hemorrhages upon the surface are in the majority of cases the cause of death or permanent injury, and statistics show that a majority of them can be reached if located. The secondary lesions comprise unorganised blood clots, cysts, hematoidin deposits, collections of colloid bodies, cicatrices, miliary scleroses, adhesions, varicose veins, and last but not least, the secondary infections, pyogenic and sarcomatous.

I wish to-day to consider the symptoms from primary lesions only, *i. e.*, the fractures, lacerations and hemorrhages which we see in a recent case. I wish to repeat that the linear fractures are of little importance beyond indicating the possible source of other lesions.

The inference to be drawn from immediate facial paralysis, hemorrhage from the ear and a true sub-conjunctival hemorrhage are too obvious to be repeated. The depressed fractures interfere with or suppress the functions of the portion of the cortex pressed upon and demand immediate attention, not with a view to restoring the skull, but wholly with reference to the underlying brain. There is no such thing as a depressed fracture without symptoms, unless you suppose that there is a portion of a man's brain without function. It may take time and study to demonstrate them, however. The effect of the lacerations and hemorrhages depend upon their situation and extent. A laceration may cause immediate and total abolition of function at the site, through the severing of the nerve connections of the part. The phenomena resulting from a hemorrhage, and the mechanism by which it acts, are best seen in cases where a small vessel is ruptured and a considerable time occupied in the development of symptoms. Slight at first, it irritates the abutting cells and the normal action of these cells is manifested peripherally in response to the stimulation. If into the motor area, involuntary twitchings or spasms of a muscle or group of muscles may result. As the hemorrhage increases in amount, it presses upon the cells, and driving out the intercerebral fluid prevents the circulation of blood and lymph through the part pressed upon. From the irregularities of pressure upon the vessels, a halo of edematous tissue invariably forms around the compressed area. This area is bloodless, therefore without function, and this loss is manifested peripherally. It is not to be seen by looking at the compressed area. The resulting symptoms comprise all possible motor and sensory disturbances, mental and moral aberrations according to the parts pressed upon. A good example of the varying effects of pressure from hemorrhage is seen in the eye symptoms resulting from rupture of the middle meningeal artery.[7] At the outset the eyes twitch toward the side opposite the lesion, and remain there with contracted pupils and often constant nystagmus until the pressure is sufficient to cause a paralytic lesion when the eyes roll toward the side of the lesion, the pupil on the side of the lesion dilates and the paralysis is complete. The importance of a hemorrhage depends upon the nature of the tissues pressed upon and the degree of pressure. A mass the size of a pea, suddenly extravasated into the medulla may be immediately fatal, while a pint of blood may be slowly and harmlessly spread over a hemisphere with a few recognizable symptoms.

A depressed fracture acts like a localized hemorrhage in the cortex and is equivalent to the introduction of a foreign body into the cranial cavity.[8] From it the general cerebro-spinal pressure rapidly rises and gradually falls, leaving the depressed area anemic in the midst of an area of edematous tissue which rapidly forms.

From the local pressure there results a general difference in the temperature of the sides of the body.[9] When the compression is slight, the opposite half of the body (*i. e.* the paralyzed half) shows an axillary temperature distinctly higher than that of the other side. Whereas, when the compression is considerable, the reverse is the case, and the opposite side has a

lower temperature than that on the same side of the lesion. It has been suggested as a working hypothesis to account for these facts, that a small pressure produces an irritative lesion of the inhibitory mechanism of the vaso-motor center supplying the opposite side of the body, and so a dilatation of the cutaneous vessels it produces, causing a rise in the surface temperature. A greater pressure produces a paralysis of the inhibitory mechanism, so that the vaso-motor center acts without restraint, constricts the vessels, and leads to a fall in temperature. This point has not yet been fully worked out, but may be of considerable importance when fully developed.

A local compression of the cortex also causes characteristic changes in the pupil.[8] If the compression is small, an irritative lesion apparently results and at the same time, as the temperature of the opposite side of the body becomes elevated, the pupil of the same side contracts and reacts poorly to light. When the

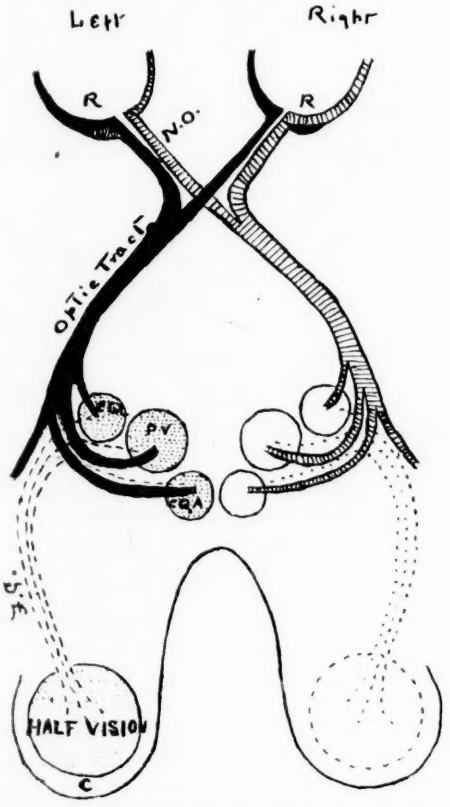

FIG. 1.—Showing course of visual fibers. R, retina; N O, optic nerve; P V, pulvinar; C G L, corpus geniculatum laterale; C Q A, corpus quadrigeminum anterius; F G, fibers of Gratiolet; C, cuneus.

compression is greater (the opposite temperature falls) the pupil of the same side dilates, while the opposite pupil contracts.

When the pressure becomes great enough to considerably affect both hemispheres, the opposite pupil will also dilate.[10] Dilatation of the pupil primarily on the same side as the lesion was described thirty years ago by Mr. Hutchinson,[9] and has since been known by his name, and the "Hutchinson pupil" has become familiar as a sign of hemorrhage from the middle meningeal artery. The phenomenon was supposed to be due, by Mr. Hutchinson, to the gravitation of the blood toward the base and its pressure upon the third nerve. But recent experiments have developed that pressure at that point is not necessary to produce the phenomenon. Furthermore it would be difficult to explain on this hypothesis, as Mr. Dean points out, how it is that only the fibers of the third which go to the iris are paralyzed, while the other muscular branches are not. It would appear that any cortical pressure, at least in this region, is sufficient to produce the dilated pupil.

Beside the alteration of the pupil referred to, which is really a paralysis of the muscular fibers of the iris, we may have as eye symptoms: 1, paralysis (and spasms) of the ocular muscles; 2, alteration in the field of vision; 3, incoördination of the parts concerned in the act of vision in each eye singly. In order to understand the ocular symptoms it is necessary to know a little of the central visual apparatus. The movements of the external muscles or the eye are controlled by the third, fourth and sixth nerves, and this motor mechanism "is finely bilateral but the sensory mechanism is badly unilateral,"[11] and hence of much greater localizing value. This unilateral disposition affects not each eye singly, but the lateral halves of both eyes. Taking first the muscular apparatus, and the third, fourth and sixth nerves: If we turn our eyes to the right or left it is done by the double synchronous action of the internal rectus of one eye and the external of the other. This is the physiologic process known as conjugate deviation.

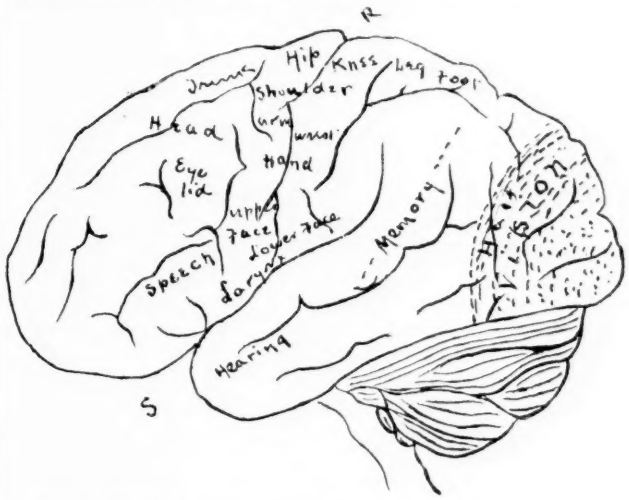

FIG. 2.—Diagram showing external surface of left hemisphere. R, Rolando; S, Sylvius.

Definite relations do not appear to exist between any one part of the motor area and the ocular movements. Irritation of the whole cortex as well as the visual area occasion ocular movements toward the opposite side (conjugate deviation) and these movements are greater, the farther the irritation is removed from the macular region of the visual area. The fibers from their cortical nuclei are collected and rearranged and coördinated at the top of the pons Varolii and pass out thence together, coming into close relations again in the neighborhood of the cavernous sinus and the sphenoidal fissure.[12] The only portion of the cortex which seems to have a definite ratio to any of the muscles about the eye is a portion of the anterior central convolutions in front of the face area (Fig. 2). Pressure at this point causes a falling of the upper lid (levator palpebræ superioris) on the opposite side from the lesion. The connection of the basal motor ganglia with the cortex of the cerebrum is as yet uncertain, but the fibers pass down in the anterior part of the internal capsule and through the pyramidal tract to the neighborhood of the third nerve where they cross. As the internal recti are supplied

by the third and the external by the sixth pair, a limited lesion in the pons may result in separating conjugate movements into its elements.[13]

A considerable lesion in the pons will produce a wide spread ocular palsy.[12] And the farther away from the pons the lesion is, either cortically or peripherally, the more limited will the paralysis be. Lesions above the pons and in the cortex produce physiologic paralysis *i. e.* of associated movements of both eyes. Lesions below the pons will paralyze single nerves and their corresponding muscles. Excepting that a lesion at the cavernous sinus and sphenoidal fissure may take in a group of nerves but affecting one eye only. And this paralysis will be crossed with any body paralysis which may be present: To summarize: Conjugate deviation of the eyes, accompanied by twitching, spasms or other irritative symptoms, is indicative of a lesion in the cortex on the opposite side to the deviation. Conjugate deviation accompanied by paralytic symptoms, dilatation of the pupil, indicates a lesion on the side toward which they deviate. Irregular or partial conjugate deviations and wide spread palsies indicate a lesion in the pons. Monocular palsy may mean a lesion anywhere between the eye and the basal nucleus, but if more than one nerve is implicated, the lesion may be near the sphenoidal fissure, or in the

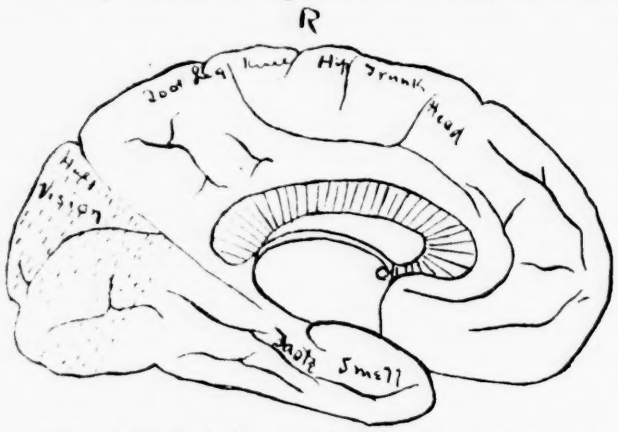

FIG. 3.—Diagram showing mesial surface of left hemisphere.

cavernous sinus. Ptosis results from paralysis of the third in its course or pressure on the anterior central convolution.

In the sensory act of vision, two orders of central apparatus are involved, whose relations are best understood from the diagram (Fig. 1). The optic nerve divides into three parts which go to the pulvinar, the anterior corpora quadrigemina and the lateral corpora geniculata. These are usually spoken of as the primary visual centers. These are in turn directly connected with the cortex of the occipital region of the cerebrum called the secondary or half vision centers (Fig. 1 c). As was said in speaking of the motor mechanism, the sensory mechanism is "badly unilateral," and is connected with, not each retina singly, but the corresponding halves of both retinæ. This I believe is made clear in the diagram.

The same distinction is to be found here as elsewhere between irritative and paralytic lesions. If the lesion in the visual cortex is slight, the irritation is manifested in subjective sensations of flashes of light, of colored fire, etc., and may be referred to the opposite eye, or may be common to both eyes. A lesion large enough to suppress the function of the cortex is manifested by a loss of vision in the lateral halves of both retinæ on the side of the lesion. This symptom is known as homonymous hemianopsia. It may be caused by a lesion anywhere between the chiasm and the cortical visual center, but practically for our purpose it is necessary to consider only the cortex lesion, as any hemorrhage large enough to interrupt the conduction in the optic tract would be otherwise immediately fatal. Wilbrand's test is of use here in case of doubt. A fine pencil of light is directed on to the paralyzed side of the retina; if the pupil contracts, the lesion is cortical; if it does not, it is in the optic tract. Central vision in cases of hemianopsia is usually unimpaired, the macular center being apparently double and common to both eyes.

In rare cases the lesion may be so placed as to involve a portion of the macular center, thus causing incoördination of the visual images of one eye and

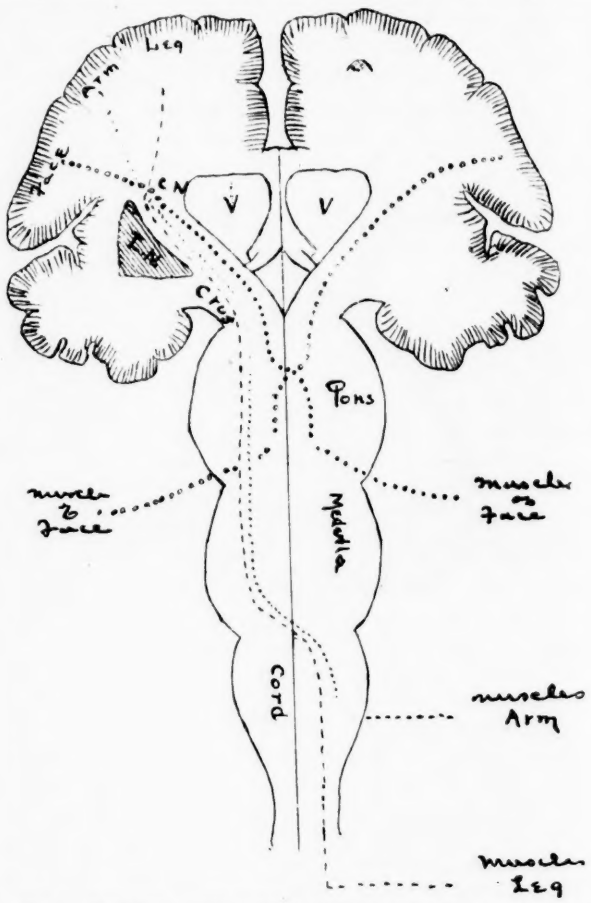

FIG. 4.—Showing course of fibers from motor tracts. V, lateral ventricles; L N, lenticular nucleus; C N, caudate nucleus. Between them the internal capsule.

giving rise to monocular diplopia. The inference from this symptom is immediate and direct as to the implication of the macular center. The sensory eye symptoms must be looked for. It should be remembered that a paralysis of the left side of both retinæ means that right half of the field of vision is involved.

Leaving the eye we come to the motor apparatus, of which the centers have been well differentiated. They are grouped around the fissure of Rolando and can be best shown quickly by a diagram (Figs. 2 and 3). The location of the leg, arm and face center, eyelid, speech, hearing and smell are accurate, and any paralysis or spasm of cortical origin will appear on the opposite half of the body. The fibers from the cortex are collected, pass through the internal capsule into the crura cerebri, thence into the pons where the facial portion crosses to the opposite side (Fig. 4). The

arm and leg fibers pass on into the medulla where they cross over. Somewhere between the cortex and the crus cerebri, probably in the internal capsule, the sensory fibers join the motor, but their centers are as yet poorly worked out. A lesion in this part of the cortex is often purely motor. Lower down the lesion must involve sensation.

When the lesion is above the crus cerebri, we have the ordinary crossed paralysis of the face, arm and leg; but from the crus down we may have one or another of the alternate paralyses combined with a lesion of the cranial nerves in most instances.[12] There may be 1, paralysis of the face, arm and leg on the opposite side to the lesion and of the muscles supplied by the third nerve on the same side; 2, paralysis of arm and leg on the opposite and face on the same side; 3, paralysis of the arm and leg on the opposite and of the muscles supplied by the seventh and sixth on same side; 4, paralysis of the arm and leg on the opposite side and the face on both sides; 5, paralysis of face, arm and leg on the opposite side, and anesthesia (from paralysis of the fifth) on the same side of the face; 5, paralysis of the arm and leg on the opposite, and the tongue on the same side. It is important to keep in mind the significance of the cross paralyses. What has been said of paralyses applies equally well to spasms.

So much for connected facts regarding the possible seat of lesions. There remain several disconnected facts, which are often of great significance. The first of these is the hyperpyrexia often attending a hemorrhage into the pons. The screaming fits which result from irritation of the posterior portion (testes) of the corpora quadrigemina and the incoördination of movements following pressure upon anterior portion of the quadrigemina are worthy of note. Pressure upon the middle lobe of the cerebellum also produces incoördination especially in the legs. Vomiting which is so common in head injuries has some localizing value. In the vast majority of cases it is a pure reflex caused by pressure or irritation of the membranes of the brain. It may be also caused by direct implication of the vomiting center in the medulla from which the vomiting is usually active and persistent. In ordinary cases it is to be taken as indicative of a surface lesion, and its frequency may be roughly used in connection with other symptoms in estimating the degree of intracranial pressure.

Similarly manifestations of pain point to a surface lesion as was pointed out by Mr. Hilton many years ago. But all manifestations of pain are apt to be suppressed quickly by the rise in the intracranial pressure. It is a valuable localizing symptom however when present. The retraction of the head and neck, associated with incoördinated movements, mechanical yawning, low temperature, slow and feeble pulse and especially jerky uneven feeble respiration are characteristic of hemorrhages into the cerebellar fossa.

Unconsciousness commonly follows severe head injuries immediately. If it does not pass off in a short time it means an increased intracranial pressure, probably from hemorrhage. If it passes off promptly and after a short lucid interval the patient becomes again unconscious, the diagnosis of hemorrhage is certain. Associated with paralytic symptoms and dilated immobile pupils, it is indicative of excessive intracranial pressure, probably from hemorrhage, and demands immediate operation, if only to relieve an edematous dura in the absence of definite localizing symptoms.

In conclusion it may be said that the cerebral centers are not to be considered as sharply defined in their relation to the body but as spots of maximal relation whose functions merge into and are directly connected with those of other centers. The cerebral centers are not related to the body like the keys of a piano to its strings, but rather as the keys of an organ which by its stops may bring forth many combinations in harmony with the pipe which corresponds to a given key.

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DISCUSSION.

DR. JAY—I do not know of any paper that could be more interesting and more positively demonstrated. The paper deals with positive facts and can be demonstrated, and the thing to do is to take up these facts and to become so familiar with them that we can make the diagnosis and the consequent treatment according to the laws laid down by the paper. That is all I can say about it. It can not be discussed.

THE PRESIDENT—The paper certainly is very exhaustive and very instructive.

DR. GRISWOLD—The applications to be made in practice of this paper are of extreme importance. Going back as far as 1858, I recall the first case that I had in injury of the brain that might have been saved if I had known as much about brain injuries as the doctor does.

A man had received a blow on the temple, just over the frontal bone, near the coronal suture, from a wine bottle. He was a hack driver. He drove sixteen miles that evening, stayed at home, drove back the next day, and the next night could not drive home. He was delirious, had considerable fever and a good deal of pain. He was brought home and I was called to him in the night. There was a little contusion, no depression, and the man was sick, and kept sick till he died two weeks afterward. He had some diarrhea during the disease, there was no paralysis, and the effort was made to say that he had typhoid fever; I stopped that. When I made the post-mortem examination I found the inner table of the skull had been fractured which ran across the meningeal artery, and had produced an extradural affection between the skull and dura mater, which led down over the root of the eye. General meningitis spread from that point and death resulted. If we had appreciated the situation and trephined, we might have saved the man.

Some twenty years ago I was called to a consultation in regard to a boy who had received a blow transversely across the skull by the edge of a board. The boy was struck down, but there was no wound on the scalp and no apparent injury. He did not, however, seem to be quite able to get up. He had a doctor attending him, and I dare say it was four days before I was called to see him. I could not see any special marks of brain injury. The eyes did not work exactly together. He had no pain. Three or four days later I was disposed to make a crucial incision at the seat of the blow and was permitted to do so, and found a depressed fracture, with considerable pressure on the brain. No other symptoms of brain depression, but there was a depressed fracture and several pieces of the bone loose. I took out the loose pieces and elevated the remainder and the boy got well and is well now. He was then 12 years

of age: he is now married and has a family. Never had signs of epilepsy or anything of the kind. I always thought if I had not done that operation he would have been an epileptic.

Three years ago last Christmas I was called in consultation to another case on a man who had been down in a shaft forty feet and a barrel was let down, striking him on the side of the head, smashing his skull and producing quite a wound. The doctor who was called to him on Friday—Christmas was on Sunday that year—did not do much, as he was a young doctor and did not know very much about such things. There was not much paralysis. The wound was over the frontal convolutions, down rather in front of the fissure of Rolando, but involved the speech center. I was called to him Sunday morning and found there was an excessive congestion over all that side of the scalp. I took out probably to the amount of $2\frac{1}{2}$ square inches of skull, all smashed up. The dura was torn open, the speech center was involved, so that a great deal of brain substance came out during the operation. I supposed he would be seriously affected in speech. He got well, and strange to say, he can talk now tolerably well. He lives in Colorado, near Sterling; his name is Shaw. There is a great deal of wound covering there on the skull, and the skull is affected. If he speaks and sneezes you can see the brain bulging out. He never will be worth anything for business, but still, if life is worth living, he has got it.

The doctor's demonstration specializes a great deal more than was necessary in these cases; these did not require so much specialization, except perhaps the first. In 1858, if I had known a little more about the brain, I would probably have trephined.

DR. HENRY HATCH, of Quincy, Ill.—In connection with injuries to the brain I wish to speak about a case that I had about eight months ago, as illustrating that it is not well for us to lose sight of a case after an injury. It was a railroad employe; he had the superior portion of his scalp lacerated from a falling brick, and a lacerated wound a little to the right of the median line. I examined the wound and found no depression of the skull whatever, and supposed he would get along all right by dressing the lacerated wound. It healed without any suppuration or any untoward symptoms, and I supposed the man would get well. About five weeks later pain developed in the region of the wound and it became necessary to open it up, trephine, and I found the inner table of the skull depressed and fractured, while the outer table showed no marks of depression whatever. After this operation he recovered without any more trouble.

DR. HENRY W. COE, of Portland, Ore.—The writer of this paper, Dr. Perkins, says that we can remember regarding the centers and diagnosis in these cases if we have some charts handy about the office. I think it would be a good thing after this paper is published, to have this paper in our offices so that it would be convenient for reference when required. It is worked out very carefully, and this subject is somewhat recent. The pathology of injuries of this kind, and the histology of the nervous system is of such a recent date, so far as it has been worked out on any scientific basis, that a paper of this kind is one that this Academy can well be proud of. I am glad to see the doctor note the symptom of pain, and the case just related is in point. We often have injuries of the head in which there is no depression that we can determine, but in which there is a great deal of pain, which continues after the pain from the contusion of the scalp passes away, and I think in all those cases we should explore a portion of the skull. In such cases there is undoubtedly some displacement of the inner table wherein pressure is exerted through the meninges upon the cortical substance beneath. I have seen a case on my way to this meeting, and on which I shall operate on my way home, in which there is practically no depression, at least no depression determined, but there is intolerable pain, following an injury occurring some years ago. No doubt in this case there is some inflammation, following a fracture of the inner table and some inflammation of the dura. In fact, there may not even be an apparent fracture, merely a slight bulging inward of the tabula interna sufficient to produce the lesion. Where there is some pain, there is generally some dural trouble. The doctor referred to hemianopsia following injuries in certain localities, but he did not mention the fact that we sometimes have this condition in case of a sanguineous patient. We sometimes see this in cases where there has been no head injury, and sometimes we think perhaps there has been hemianopsia there, and yet in some cases where this condition exists temporarily, stimulation will relieve the case. The doctor has no doubt seen a case of this kind but I do not remember hearing it mentioned in the paper. We know that we have that condition of women in labor, where there is a large flow of blood and which perhaps in twenty-four hours passes away, or else passes away quickly under stimulation.

DR. COLE—I feel that Dr. Perkins has placed us under obligation for this remarkably clear elucidation of a very important subject. The study of cerebral topography and cerebral localization and the practical results to be gained from the knowledge of the physiology of the brain and the facts as brought out in the paper, are comparatively recent and are of the utmost importance. Those of us who have practiced a dozen years or more remember with what almost horror we looked upon the prospect of opening the skull. In this day of clean surgery we do it with impunity. We operate for symptoms which a dozen years ago were blind and we can operate with accuracy and we can get positive results. I feel that the Academy owes its thanks to Dr. Perkins for this very able paper.

DR. HATCH—I want to say just a word in line with what Dr. Cole has said, and to go perhaps a little further than the author of the paper has recommended. He said that in simple linear fractures without symptoms of compression, it is as well to pay no attention to them. I believe from experience in quite a number of cases in which I have trephined, that in the majority of cases of simple linear fractures, you will find an infused clot underneath the fracture pressing on the dura, and I believe that the impunity with which we can trephine and enter the skull anywhere on the dome of the skull, has shown us that it is good surgery to explore in every one of those cases. The fact is, in those cases of recovery it is only a week or ten days until they are comparatively as well as they always were. It seems to me good surgery, in absence of other symptoms there than symptoms attending linear fracture, to trephine and find out what you have. I have just got through a case which has recovered which shows that one should not despair in very extensive fractures of the skull. About two months ago a colored man was thrown from a wagon upon the curbstone and fractured a portion of the skull $3\frac{1}{2}$ inches in diameter, lacerating the anterior frontal sinus. The hemorrhage was very extensive: I had him conveyed to the hospital as rapidly as possible and it looked to me as if the case were hopeless. I removed about $3\frac{1}{2}$ inches of the anterior portion of the cranium and caught up the anterior frontal sinus and ligated, and the man is around town to-day apparently as well as ever.

DR. PECK—I would like to detail one case I had six years ago. It is that of a boy of 14 who was employed in the iron mines to drive mules which brought the cars of ore out from the mine. In reaching in to uncouple the chain links between the cars, his head was caught between the projecting beams on the two cars, and by the impact of the cars going down grade behind and jamming them together, the head was caught in the space between the two beams, which afterward by measurement was found to be $5\frac{1}{4}$ inches. I saw him within twenty minutes or half an hour, found a depressed fracture of the left parietal bone at its middle portion just above the ear. The depression,

which was very plainly made out, consisted of two fragments wedged down on the brain, the soft surface of the meninges. The hematoma covering the field of the pressure was pulsating synchronously with his heart, and it was with a good deal of fear that I made an incision. I feared I would have a troublesome hemorrhage before I could trephine and remove one of the fragments of bone in order to get to where I could control hemorrhage. However, on making the incision there was just one gush of an ounce or so of blood, and no further hemorrhage. It was an absolutely clean operation, the pulsations having been transmitted from the brain substance itself and communicating through the triangular openings above and below the angles of the fracture. It was quite a slow operation, cutting out the first fragments of bone, inasmuch as they were wedged down in the shape that it took a great deal of lifting force to get out the fragments of the bone. The symptoms which the boy presented were a semi-unconsciousness, some vomiting, unequal pupils, symptoms of partial compression. I removed one of these fragments of bone, elevated the other, and that boy never had a rise of temperature above 99.6, and in eight days after the injury was out playing ball. There were three lacerations of the meninges; there was an escape of a teaspoonful or more of cortical substance; there was absolutely no functional trouble; there were no symptoms following the injury save that he has a depression in which you can lay a finger.

Dr. Daniels—I feel that we are largely indebted to Dr. Perkins for this instructive paper. I rise to differ from Dr. Peck in regard to miscellaneous trephining in linear fractures. I do not quite favor that, but I do believe that age should have very much to do with all operative measures in that direction. I have found in my experience that children or very young people will bear considerable depression or a great number of linear fractures without any bad symptoms at all, while persons of middle age or beyond, having comparatively the same injury, will have very serious results follow. In adults the use of the trephine is almost imperative. I believe that the consideration of age in these cases, so far as I am able to judge from experience of a considerable number, covering perhaps two hundred in the hospital where I am associated, is an essential one.

Dr. Jay—We all admit that in young persons you can have a depression of the skull and probably have no spasms and no paralysis, but experience will tell you that in after life they are sure to have them if the depression is left. I have operated on several cases, twelve, fifteen and twenty years ago, and for years afterward there would be no unfavorable symptoms, but about the time of puberty they would appear. One case is a woman, where the depression remained and afterward required trephining. It is not good surgery to delay trephining.

Dr. Peck—Dr. Jay misunderstood, I did not refer to depression; always trephine where there is depression.

It was moved by Dr Peck and seconded by Dr. Maynard, that the thanks of the Academy be extended to Dr. Perkins for his elaborate and learned paper. Carried.

Dr. Perkins—I wish to thank the Fellows for their very kind reception of the paper, and also to speak of one or two things that have come up. First, in regard to those extradural hemorrhages. I have recently received a report of 160 cases that were done in one hospital by one group of men acting together, and out of those 160 case, 64 were cases of extradural hemorrhages from the meningeal artery in brain injury. As this is nearly 40 per cent. of the cases, one is justified, perhaps, in cases of an unconscious patient, without any symptoms, in going inside the meningeal artery rather than see the patient die. You will have forty chances in one hundred of relieving him. The basal hemorrhages are more rare and diagnosis is more difficult. The treatment of basal hemorrhage would be more difficult than the diagnosis but it has often been suggested in my mind how easily we could relieve, in a fresh case of basal hemorrhage, if we knew where it was, by a simple insertion of a hollow needle down through the cerebral mass. We often insert a needle into the brain substance in search of an abscess and no harm is done, and I see no reason why we could not put a hollow needle into the basal hemorrhage if we could know where it exists. It would not be necessary to raise the brain from the base of the skull. In regard to the magnitude of certain injuries, it has been stated by one authority that there was no brain injury so great but that it could be recovered from and none so small but what death might result. The most terrible wound I know of was in the case of a man who was struck by a tamping iron, which passed through the malar bone and passed out through the cortex. I have seen the tamping iron; it was a very heavy bar, and went lengthwise through the skull and produced a very terrific injury. The man recovered and has all his faculties, as far as known.

In regard to the position of the speech center, and the loss of certain portions of the cerebral matter we know that the speech center lies in the third left frontal convolution, but it has been found that after the loss of it, its function is taken up by the opposite side of the brain. There is a certain interdependence of the brain from one side to the other, which is used in this case, and so paralysis of speech, permanent paralysis, does not result.

In regard to exploratory operation in simple linear fracture, I do not believe in operating for nothing, and if there are no other symptoms present, I doubt if one would be justified in interfering. One operates for symptoms, not for nothing.

PERSONAL EXPERIENCE IN SPINAL INJURIES.

Read at the Second Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Ill., Sept. 25-27, 1895.

BY J. F. PRITCHARD, M.D.
DISTRICT SURGEON C. & N. W. RAILWAY,
MANITOWOC, WIS.

The question of spinal injuries has been so much discussed that one feels like apologizing for presenting anything more on the subject, but as it is yet vital in some measure, we must continue our investigation until we have an approximation to the truth.

In going over my records, carefully kept for many years, involving every case of injury on one line of road, I find that an average of injuries to the back was thirteen per thousand. These include all classes of injuries, and are noted on my reports as contusions, sprains, twists, and injuries which are popularly called concussions, also dislocations, fractures and serious injuries of like nature to the spinal column. But what is remarkable is that of these injuries caused by falls, blows, or other like causes incident to railway life there was but one in which recovery was not complete and permanent. My experience would therefore tend to show that so called railway spine is a myth. In reporting cases, I limit myself to those that had marked symptoms.

Case 1.—P. S. Cooney, aged 19; Irish-American, good habits, a freight brakeman, was standing at a switch at a small station to close it as the train passed out of the siding. The ground was slippery and wet, when he, in some way not very well explained, fell under the caboose. He claimed that the wheels ran diagonally across his hip and the lower lumbar region, which statement was corroborated by his conductor who claimed to have been standing on the ground with his lantern and saw the accident. I think they were mistaken, as the car had switch ropes, chains, links, pins, etc., the usual complement for such cars, which would add about 3,000 pounds to its weight, and would no doubt have killed him instantly. My

theory was that he fell in such a position as to go through under the brake-beams and truck-frames, probably doubled up. He no doubt was run over in some such way. When first examined, in an hour or two after receiving the injury, I could find no marks on his body, *i. e.*, no wheel mark or contusion. The spines of the upper lumbar vertebræ were fractured and displaced laterally to a slight extent. He complained of little pain, was totally unable to move his body or legs; had no loss of sensation other than a numbness; no paralysis except as above noted, which seemed to be only an inability to move temporarily. He had full control of bladder and bowels, took his food well and had no rise of temperature at any time. In the course of a few days he complained of a soreness of the muscles with external tenderness over the whole region below the point of injury. This condition improved gradually. He was discharged and resumed labor as flagman on a passenger train, having lost seventy days' time. When discharged his general condition was very good. He had perfect use of all of his muscles and no other difficulty except a slight deviation of the vertebral spines.

Case 2.—Lucian Budyscz, age 18, Polish laborer, was run over by a caboose which he and a number of others were endeavoring to push out of a side-track by hand. The switch was open and a switch engine coming through the yard at the rate of fifteen miles an hour, struck the caboose and injured several men. Budyscz's injuries were multiple and complicated as follows: Right elbow and forearm laid open, requiring resection; comminuted fracture of left femur; injuries to his toes, requiring amputation of two or three; dislocation or fracture of all of the fingers on both hands; injury to the spine similar to Case 1, viz., fracture of spinous processes in lumbar region. He complained from the beginning of severe pain in his back, and required large doses of morphin to relieve the pain which lasted nearly two weeks. There was no paralysis or loss of function of any organ, and recovery was complete so far as the spinal injury was concerned. The other injuries healed kindly. He was under my charge about six months, until a settlement could be made with him. He never complained of any spinal symptoms afterward.

Case 3.—R. Kroll, age 28; German, foreman of a gang of track layers, who when going and returning from work used two ordinary hand-cars. They frequently raced on returning, and at the time of this accident were racing. A wheel broke while they were running at a high rate of speed, throwing the whole crew forward in front of the car. One man was killed instantly, another received slight injury, while the subject of this sketch fell under the car and was caught at the junction of the last dorsal and first lumbar vertebra in the gear of the car, causing a dislocation. He was immediately paralyzed from this point downward. We operated later and reduced the dislocation by carefully dissecting free the attachments of the spinous processes, then by making lateral traction on the opposite spinous processes with extension from his feet and shoulders, the dislocation was easily reduced. The spinal canal was not opened. He did not require an anesthetic for the operation, and said he had some return of sensation afterward. He died two weeks later. In this case, while we did not have the privilege of a post-mortem examination, it was quite evident that the cord was completely or nearly severed.

Case 4.—John Adamski, Polish, section foreman, age about 40, was attempting to remove his hand-car from the track to clear a special train. The car was struck and he was thrown off, causing contusions of the lumbar and sacral regions which appeared to be muscular only. Later when seen by the writer he complained of nothing but weakness when stooping, no pain or difficulty in walking, no loss of sensation nor any apparent nerve lesions. When the case came into court, however, he had evidently been coached, as he then complained of great pain, loss of use of his right leg, curvature of the spine and in fact everything which would indicate a serious spinal injury. His physicians testified that they found an angular curvature in the lumbar region with contraction of the leg, etc. By order of the court we examined him carefully. Measurement showed no loss of substance in the leg as compared with the other. We placed him horizontally on his face and in a few minutes his leg became straight. On examining the spine, there was not the slightest deviation from normal. It was an evident case of malingering. The court also took this view and granted a non-suit.

With these exceptions all other cases reported as injuries of the back did not develop symptoms referable to lesions of the spinal cord. In cases 1 and 2, while there were marked symptoms of injury of the cord, recovery was as prompt and complete as could be found in any other region or organ of the body, leading me to the conclusion that while injuries in this region may effect the cord, unless there be some prior disease or tendency thereto, we need not anticipate permanent injury.

All court records with the subsequent history of the patient will bear out the above conclusion, and I am fortified in my belief by discussing this subject with anti-corporation attorneys. It has not fallen under my observation to see a case of railway spine, yet there may possibly be such a condition, or rather an imaginary condition while the claim is being prosecuted, which disappears as soon as the judgment is paid.

I find attorneys out of court agree that so-called railway spine is a humbug, and notably in one case in which a prosecution was brought for an alleged injury of this nature caused by the derailing of a sleeping car. The attorney confessed to me that he did not believe that the woman was hurt at all, but said that she was diseased, of bad character generally, and he could bring his action best for spinal disease. He said if he had a similar case again he would set up some such state of affairs as this, that she was in such a condition of health that a shock or fright, or similar disturbances would destroy the general equilibrium and cause incurable disease, but under no circumstances would he ever bring suit for railway spine again. I am satisfied that in healthy systems an injury to the spinal cord will cause one of two conditions, either immediate marked symptoms, from which recovery is likely to occur, or when the cord is destroyed, permanent but immediate loss of function of all parts below the point of injury. I do not think in a healthy system the concussion to this region is more likely to produce permanent injury than will a simple uncomplicated fracture cause permanent loss of function of a limb.

MASTOID DISEASES.

Read at the Second Annual Meeting of the American Academy of Railway Surgeons held at Chicago, Ill., Sept. 25-27, 1895.

BY A. D. BEVAN, M.D.
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I do not know of any other field of surgical work which involves such a thorough knowledge of the parts involved as mastoid diseases and its resulting complications. I would say that I have here a number of specimens selected from a lot of work which I did during last winter; I operated on thirty-five cadavers, made seventy operations on both sides of each cadaver in this line of work, to determine some of the points in regard to the anatomy, especially the position of the facial nerve with relation to the submedial triangle, and to demonstrate the best method of entering the temporal bone and the cerebellum and the sigmoid portion of the sinus.

From experimental work which I did, following very closely in the line of Macewen and Kerner, I determined the points which are practically laid down by Macewen in regard to the opening of the mastoid antrum. The key to the entire situation is the mastoid antrum, and a successful opening of the mastoid antrum can always be made if we adopt and follow these simple rules. If we examine the skull carefully we shall find immediately behind the temporal ridge the posterior border of the zygoma, a ridge running into the temporal ridge. This ridge is the upper line

of a triangle known as the submedial triangle. If we select the upper portion of this triangle as our point for opening the mastoid antrum, immediately below the posterior root of the zygoma, we shall find thus a point about a quarter of an inch behind the external auditory meatus and its roof. Now, if we place a dental bore, which is the best instrument to open the mastoid, or a fine chisel in this direction and open in the direction parallel with the external auditory meatus, we will invariably open into the mastoid antrum. The mastoid antrum is constant. Very often we do not find mastoid cells, but we invariably find a mastoid antrum. The depth varies very much indeed. Sometimes we will find it at the depth of a quarter of an inch, sometimes as deep as five-eighths of an inch from an external surface of the bone, but the landmarks are constant. Now, in order to avoid the important structures in this vicinity, we must understand the exact position of the facial nerve and of the sigmoid sinus. The facial nerve is, as you are all aware, on the posterior wall of the external auditory meatus, running over the facial bone, entering at the internal auditory meatus, it runs first forward and a little upward, until it reaches the stylo-mastoid foramen in the bone; it then makes a right angle turn, then a second right angle turn and comes out. But the simple anatomic fact to remember is this, that the facial nerve is in the plate of bone, between the external auditory meatus and the opening which you have made into the mastoid antrum. Now, that is very important, because you find the statement made by some specialists in ear work (I have seen the statement made several times) that in their mastoid work they first open the mastoid antrum, then they chisel away the posterior plate of bone. If they do this they will cut the facial nerve every time. It would be the greatest luck in the world if the facial nerve was not cut off, but it can always be avoided if the operation is made in the way I suggest.

Another point: Beside the facial nerve, the position to avoid is the position of the sigmoid sinus. I have drilled here an opening into the sigmoid sinus, a large opening with a trephine at this point, but the sigmoid sinus can practically always be avoided. It is possible that is hardly a fair statement to make, because the best practitioners have opened up the sigmoid sinus in work of this kind, but in work which I have done in the dissecting room there was no difficulty whatever in avoiding the sigmoid sinus. The exact position of the sigmoid sinus you can determine by drawing a line from the articulation of the lower and external angle of the parietal bone to the typical mastoid process. The upper two-thirds of the line will give you very plainly the position of the sigmoid sinus. It is a point which might very often be necessary to determine; in an ordinary mastoid case it would not be necessary to open it. Where we suspect thrombosis, the common thing would be to extend our operation downward and outward, after opening up the mastoid antrum, and expose the condition of the sigmoid sinus. Some of the best work which has been done in this line has been done by Von Bergmann, who makes a very neat suggestion in this work. His routine work is this: First, opening the key of the situation, the mastoid antrum, then if there is intercranial lesion, open up a portion over the point just about the position of the temporal sphenoid, removing that plate or working it down and exposing the dura mater; then with a spatula elevate the dura mater and from this work backward over the interior surface of the temporal bone. More than a majority of the cases are in the temporal sphenoid alone and a majority are through the dura mater.

Von Bergmann's routine of work is, to open into the mastoid antrum, then to expose the temporal sphenoid alone, if the difficulty is found there, as it is in two-thirds of the cases. If, however, he does not find the difficulty at that point, then he extends the operation from the mastoid down over the sigmoid sinus. If he does not find the difficulty at that point, and there is evidence of intercranial lesion, he extends the operation in the same line. These four operations, mastoid antrum to sigmoid sinus, is an extensive operation and you should go from one point to another until you determined the circle.

One interesting point developed is the fact that following mastoid disease without involvement of the temporal sphenoid lobe or cerebellum, patients have died from sepsis, from a septic thrombus in the bulb of the jugular vein. Just at the point of division there is quite an elevated portion of the vein which extends upward, the bulb of the jugular vein, which has been found in several cases to be the seat of septic thrombus and the effects of general sepsis and death.

Another interesting point in connection with this kind of work is the necessity of ligating sometimes the jugular vein. The work in this direction has as yet been limited and I do not think sufficient in number or exact enough in all of the cases to determine the exact value of the ligation of the internal jugular. Personally I do not think it is a good method, unless we can actually demonstrate lateral sinus thrombosis and possible involvement of the internal jugular, because you may have, as has been reported, a case in which the internal ear was like this: The patient had sepsis, and it was found that the septic material had blocked up the jugular above the point of the ligature and had been carried in from the other radicles.

My own work in this line has been rather limited. I have to report a number of cases which illustrate the value of this work. I do not believe, however, that I shall take up the time of the Society. There can be no question but that a large majority—that is putting it very safely—a large majority of intracranial lesions can be successfully combatted by early and properly performed operations. Macewen's work, which is the best work that has been done on this subject, shows that out of some twenty cases, he saved over 70 per cent., even after involvement had begun. But the great value that should be recognized by every physician, is the prevention of intracranial lesion. How many times would a simple mastoid operation prevent intracranial lesion? Any one can do a mastoid operation with a knife and gimlet, if he knows the simple anatomic rules which will enable him to open the mastoid antrum itself.

DISCUSSION.

DR. GRISWOLD—I do not think we ought to let the paper of Dr. Bevan pass without consideration. He mentions the work as comparatively of the same degree with appendicitis. Appendicitis has advanced much farther in its course in the profession in general than the disease of the antrum of the ear. I recall a case that I think might have been cured if we could have followed Dr. Bevan's advice. Some twenty years ago I was consulted by a young man who had pain in his ear. He had been more or less deaf and had had discharge from his

ears since infancy. At this time he was suffering continuous pain and occasional discharge. I turned his case over to an aurist, and in the course of six or eight weeks he died. In the meantime, before he died, the pain got more and more aggravated accompanied by a slight rise of temperature, not considerable, not much increase in pulse and not much mental disturbance and no paralysis; he got a little dull and stupid for the last four or five days of his life; it was pretty difficult to make him understand anything. He did not hear very well with his other ear, but it did not seem as if the disease of which he died caused a great deal of functional disturbance, and I was bound to make a post-mortem examination. I found an abscess, large enough to fill a good-sized teacup with pus. The inflammation seemed to have gone through the roof and affected the dura mater and at last an abscess had formed. The mastoid cells were considerably infiltrated and showed signs of disease, and I have not very much doubt but that the case might have been cured with the advanced surgery that Dr. Bevan teaches now, and that he died for want of good surgery.

THE WOODBRIDGE TREATMENT OF TYPHOID FEVER.

BY W. BAYARD SHIELDS, M.D.

MEMBER OF THE ARKANSAS STATE MEDICAL SOCIETY AND THE AMERICAN MEDICAL ASSOCIATION.

ST. FRANCIS, ARK.

A good deal of attention has been paid to articles which have appeared at various times in the last few years in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION by Dr. J. E Woodbridge, of Youngstown, Ohio, one of the trustees of the ASSOCIATION, in regard to his treatment of typhoid fever.

This treatment is according to a method based on the inhibitory influence which antiseptics frequently administered have on the typhoid bacilli in the intestinal canal, checking their activity, hence preventing the rapid and abundant development of toxins, the absorption of which into the system produces the grave nervous troubles so frequently seen in this disease. That the absorption of the toxins formed by the destructive and putrefactive action of the typhoid bacilli is the cause of the nervous symptoms in this disease seems beyond a doubt in my mind, and not, as has been assumed by Liebermeister, to be caused by the high temperature. Strumpell shows after careful investigation, that the height of temperature frequently bears no relation to the amount of nervous derangement, and that in cases of this fever with perhaps high ranges of temperature there are frequently no nervous symptoms. Frantzel has published lately striking cases of this sort. I imagine that these cases are in patients whose nervous centers have greater powers of resistance to toxic influences as we frequently see in other diseases.

The absorption of the result of putrefactive destruction in the intestinal canal also is undoubtedly the cause of the bronchitis. Bacteriologists have of late years proven that the majority of cases of bronchitis (in children especially) are caused by the absorption of the products of intestinal infection, and they almost invariably relieve the bronchial symptoms by small doses of calomel frequently administered which is perhaps our most reliable intestinal antiseptic.

Dr. James Herrick, of Chicago, in a paper read several years ago at a meeting of the AMERICAN MEDICAL ASSOCIATION in regard to his experience in the treatment of a thousand cases of typhoid fever, says that the internal administration of antiseptics prevents the development of nervous symptoms and tympanites by inhibiting putrefaction and the formation of toxins, which has been my experience in testing the Woodbridge treatment.

From Sept. 15, 1894, to Aug. 1, 1895, we had an endemic of typhoid fever in the town of St. Francis. Nearly all of these cases were of severe type, the morning temperature of some being as high as 104. I treated individually twenty-eight cases, with one death, and that in a man whom I had been called to see on the ninth day of disease, and who strictly against my orders was allowed to eat fried meat and bread. The night following he had a profuse intestinal hemorrhage from which he did not rally. Another case, treated by a physician near by, had died from the effects of intestinal hemorrhage a few days previous. These were the first cases which occurred in this endemic. I used in my cases the Woodbridge treatment modified by sponge baths and rectal injections of a quart of boiled water (cooled) at 10 A.M. and 3 P.M. each day, with thirty drops of carbolic acid in each injection as a deodorant. These cool water injections would reduce temperature and relieve the bowels of effete material. The addition of the acid had been suggested to me some years ago by Dr. Peckham, U. S. Marine Hospital Service, who was then located in Memphis, and had used such injections in typhoid fever with a light mortality.

The last ten cases I treated I also washed out their stomachs, every day for first week of treatment, with cold boiled water which had a most remarkable effect in reducing temperature, and seemingly did not depress them. I introduced the stomach tube with the patient in a recumbent position, anesthetizing their throats with a 5 per cent. solution of cocain, and used a gallon of water at each lavage.

The medical treatment was that of Dr. Woodbridge, using formula number one, two and three, following his directions as near as possible. I believe that the carbonate of guaiacol and small doses of calomel are the most valuable ingredients in this formula.

℞. 1.	
Podophyllin	1-960 gr.
Hydrarg. sub. mur	1-16 gr.
Carbornate Guaiacol	1-16 gr.
Menthol	1-16 gr.
Sacch. lactis	q. s.
℞. 2.	
Podophyllin	1-960 gr.
Hydrarg. sub. mur	1-16 gr.
Carbonate Guaiacol	1-4 gr.
Menthol	1-16 gr.
Thymol	1-16 gr.
Sacch. lactis	q. s.
℞. 3.	
Carb. Guaiacol	3 grs.
Thymol	1 gr.
Menthol	1-2 gr.
Eucalyptol	5 m.

Number 1 was given every fifteen minutes for twenty-four hours, and if in that time the bowels had not acted freely, was continued for twelve hours longer, then No. 2 every half hour for twenty-four hours, then every hour for twenty-four more hours; then No. 3 every three hours. A number of cases seemed to be materially shortened; one case especially with a morning temperature of 103.8, and an evening temperature of 105, reached normal on the morning of the thirteenth day of treatment and the fifteenth day of disease.

The average duration of twenty-three of these cases was fifteen and one-half days. The other cases with

one death did not seem to be materially benefited. One of these cases, to which I was called to see on the twelfth day of the disease, running the regular course of not less than thirty-five days after seeing her, at which time the Woodbridge treatment was instituted. The treatment was left off after twenty days in this case, not seeming to produce any benefit, and the patient treated symptomatically. In all cases ptyalism can be prevented by using a tooth powder of potassium chlorate once daily, which destroys the microörganisms around the roots of the teeth which are especially active while the system is loaded with mercury, and is the cause of ptyalism. I think the mercury in the prescription is very essential, as it assists in throwing off the effete material. I did not give a single dose of opium or astringent except in one case, and that the case in which I left treatment off after twenty days.

The eliminative action of calomel and rectal injections kept bowels open and prevented diarrhea, the results of the efforts of nature to get rid of the toxins of the disease. They would have under this treatment from four to six actions in the twenty-four hours, which is a thing urgently necessary, according to my judgment, in this disease. Only two had intestinal hemorrhages, one ending in death, and in these cases the rectal injections were left off. Several cases I was called to see which had already exhibited marked cases of tympanites were relieved of the latter by this treatment in a few days. I noticed that especially their nervous symptoms were alleviated by these antiseptics frequently administered, the gastro-intestinal tract being simply flooded. I do not feel so enthusiastic as Dr. Woodbridge does in thinking every case could be saved, but I do think that his treatment, in connection with sponge baths and rectal injections, an improvement over Brandt's one-sided bath, or someone else's exclusively medical treatment, notwithstanding Professor Osler's declaration that no known remedy shortens the disease by one single day.

Not a single dose of the coal-tar derivatives were given. Only the sponge baths and rectal injections of cold water, both of which I think quite necessary, being used to reduce temperature.

Dr. Peckham assured me, that according to his observation, the addition of the carbolic acid to the enema had no deleterious effect, and although I watched it carefully, could see none myself.

I think the stomach lavage a great assistance in the first stage of this disease, but not so essential as the rectal injections. The latter would reduce temperature without the acid, but once in a while a little of the acid would be absorbed, producing free prespiration, though no weakness. My results have not been so good as those of Dr. Woodbridge, perhaps my own fault, not being so familiar with the treatment, but were I to pass through another epidemic, I should certainly rely upon this as my sheet anchor, for seemingly in a number of cases the results were brilliant, although cognizant of the fact that not infrequently a case will start with severe symptoms and subside in a few weeks under symptomatic treatment. I saw in a number of cases of high morning temperature, an amelioration of symptoms under this treatment, and when I would experimentally leave off medicines the symptoms would be aggravated.

Dr. Woodbridge has simply carried to the fullest extent, in my judgment, the treatment advocated by some of the leading men of the profession for a number of years. The frequency of administration of doses at first does not disturb the patient so much as one would suppose, if so after 10 P.M. I would give a double dose of number one every half hour until morning.

In conclusion I would say that Dr. James Jackson, of Boston, advocated the use of gastric lavage a number of years ago, especially in the first stages of the disease and thought it could be aborted in some cases by its prompt use.

IS HYSTERECTOMY FOR PUERPERAL INFECTION JUSTIFIABLE?

Read by title before the Southern Surgical and Gynecological Association.

BY R. R. KIME, M.D.

PRESIDENT OF ATLANTA OBSTETRICAL SOCIETY; PRESIDENT OF ATLANTA MEDICAL SOCIETY; VICE-PRESIDENT OF THE TRI-STATE MEDICAL SOCIETY OF GEORGIA, ALABAMA AND TENNESSEE; EX-PRESIDENT EXPOSITION HOSPITAL STAFF, ETC.

ATLANTA, GA.

At the present time this is an important question and of interest to the medical profession in general. While asepsis and antisepsis have rendered incalculable service in the prevention of puerperal infection, such cases occur and we are compelled to devise means for their relief.

Before adopting any line of treatment or surgical measure in these cases, it should be established that they are life-saving commensurate with the risks incurred by their use.

Before hysterectomy can be adopted as a justifiable measure in puerperal infection it must be demonstrated that it will save lives that can not be saved by less heroic treatment.

From inquiry of eighteen leading gynecologists and obstetricians, I find five opposed and thirteen in favor of the operation.

Out of fifteen cases operated upon eight have died, making a death-rate of $53\frac{1}{3}$ per cent.

In most instances it is said that the operation is done as a last resort in severe cases, and with the oft-repeated remark, "the patient would have died without it." While this may be true, all of us have seen such patients get so low and yet recover that I have lost confidence in such positive prognoses.

The advocates of hysterectomy advise it for disease limited to uterine body, such as septic metritis, multiple abscesses in uterine wall, uterine thrombo-phlebitis, and gangrene of uterus.

Pyosalpinx, ovarian abscesses, etc., are the secondary localized results of puerperal infection, hence operations for such do not come within the scope of this paper.

The fact that a patient recovered from hysterectomy is not conclusive evidence that the operation was justifiable. A uterus filled with putrid material can be removed and patient recover in the great majority of cases, yet the condition does not justify such measures. The same can be said of all cases of putrid infection, for they can be relieved by less heroic measures and without sacrifice of pelvic organs.

In septic infection when *serious constitutional* symptoms develop, the process in *most* cases is no longer local, and can not be removed by hysterectomy, the germs and septic material having extended beyond the uterus, tubes and ovaries into the blood vessels, lymphatics, pelvic cellular tissue, and the general circulation. In a few cases the process may be sufficiently local to justify hysterectomy, but to diagnose

such a condition is a difficult task. None but an expert can do so, and they are frequently mistaken in diagnosis.

Most gynecologists that favor hysterectomy advise to curette and tampon uterus, and if the patient does not improve or grows worse then remove the uterus.

If this is a correct guide as to the indications for hysterectomy, then it is not a question of diagnosis, but failure in a certain line of treatment to give relief that demands the sacrifice of the uterus. In severe cases of septic infection to curette and tampon the uterus, then perform hysterectomy, the death-rate would be so high as to condemn the operation and many lives would be lost that could be saved by less heroic means.

To be more explicit, I will deviate from the title of this paper and enter briefly into the pathology and treatment of puerperal infection.

It is of two general varieties, viz.: 1. Putrid infection or sapremia. 2. Septic infection or septicemia.

The first is a local infection due to decomposition of the uterine contents by putrefactive bacteria only without migration of the bacilli, not contagious, non-progressive by invasion, due to absorption of ptomaines not inoculable.

In sapremia, putrid infection, remove the putrid material from the uterine cavity, irrigate, disinfect, drain, and 99 per cent. of cases will recover. Hysterectomy would relieve these cases, but it would be criminal to sacrifice the generative organs when such cases can be treated more successfully and with fewer deaths by less heroic measures.

The second class is due to germ development, their rapid migration and invasion of new tissue even entering the general circulation; if at first local it soon becomes constitutional, highly infectious, and inoculable from case to case. The contagious principle is destroyed by boiling, putrefaction and germicides.

In the treatment of septic infection we have a more difficult problem to solve.

The septic germs soon extend beyond the endometrium, invading its muscular structures, the lypmphatics, the blood vessels, etc., and can not be removed by ordinary surgical measures, and it is very doubtful if hysterectomy could completely remove the infected tissues in severe cases.

In putrid infection the curette and tampon might relieve the patient, but in septic infection I do not believe such treatment is advisable, except it might be within one or two days after labor, where placental tissue has been left in the uterine cavity.

It is drainage and elimination we desire in these, cases, not obstruction. What surgeon of repute would tampon an abscess cavity through a very small opening without using a drainage-tube, letting the gauze remain two, three or four days, especially when there is a broken down tissue, débris and septic germs present in abundance.

After delivery nature establishes a process of elimination by a current flowing from the uterine cavity, the uterus and vagina being the main trunks of a sewer; the lymphatics, blood vessels, and uterine sinuses, its tributaries, obstruct the main channel, and what is the result? Who could think of filling the trunk sewer of a city with gauze and expect free drainage, even if done antiseptically after scraping out and flushing it? Yet we are advised to curette the uterus and fill it with gauze, damming up nature's channel of elimination, thus preventing the throwing off of effete material from the placental site, endometrium and lymphatics—obstructing the egress and retaining the phagocytes laden with germs and toxins, completely annulling phagocytosis, producing the very condition we should endeavor to prevent. Some will say only tampon after a thorough curetting; so much the worse, you have broken down and destroyed nature's barrier, opened up new surfaces for absorption, and favor that absorption by obstructing nature's method of elimination. I regret to say it, but it is my conviction that the curette and tampon indiscriminately used kill more patients than they save in septic infection.

Their indiscriminate usage manufactures cases for hysterectomy. In the treatment of these cases imitate nature as far as possible and establish a current of free drainage.

If any foreign substance is in uterus remove it with the forceps, wounding endometrium as little as possible; irrigate the uterine cavity thoroughly with an antiseptic solution and introduce as large-sized rubber drainage-tube as the os will admit. Repeat irrigations and cleansing of the drainage-tube at least once or twice in twenty-four hours. Do not neglect occasional use of salines and calomel if needed, with systematic use of quinin, strychnin, tonics, and good nourishing diet. Quinin certainly has a specific action in these cases in checking germ development and controlling the chills which accompany these cases. I venture to say that where this line of treatment is properly carried out it will save more lives than the combined use of the curette, tampon, and hysterectomy. While I have in a great measure condemned hysterectomy in puerperal infection, I admit it has a limited field of usefulness in septic metritis, multiple abscesses in the uterine wall, thrombophlebitis, if it were possible for us to be positive in our diagnosis, but if in doubt I prefer drainage.

Unless future operative work gives better results, even this limited justification of hysterectomy may be abandoned.

In the above collection of cases I am satisfied, if the operation be limited strictly to severe cases of *septic infection*, rapidly progressive and not in its secondary results, the death rate would be 80 or 90 per cent. of cases operated upon. Even a death rate of 50 per cent. is sufficient to condemn the operation. The proper use of the drainage-tube will not only save more lives, but the uterus, tubes and ovaries will be preserved for future usefulness and the surgeon's conscience left more at ease.

CÆSAREAN SECTION TWICE IN ONE PERSON.

BY J. W. COAKLEY, M.D.
MT. ETNA, IOWA.

August 3, 1893, I was called to see Mrs. P., aged 30 years, in her fourth pregnancy, there having been previously one abortion. I had performed craniotomy in two preceding labors on account of so great contraction of the pelvis that it was impossible for the child to be delivered, as the conjugate diameter was less than two and one-half inches.

It was difficult to assume the responsibility of the operation owing to opposition to it by elder members of the profession, as indeed it has been one of the most hazardous operations known until within the light of aseptic surgery.

Dr. Harris collected with great industry 153 operations performed by the older methods in the United States, 56 of which, or 37.5 per cent, ended in recovery; under this showing it will be seen that more than one-half of the cases proved fatal.

Baudon, writing in 1873, said, in Paris there had not been one successful case in 80 years, though the operation had been performed on perhaps as many as 50 women. I believe the responsibility for these results to be due to septic infection in the first place, and second, the postponement of the operation until death impended. I believe the surgeon is, in the majority of cases, responsible for the death of the patient when due to sepsis; and further, when the dressing is complete no inexperienced nurse should have anything to do with the case.

However, I decided not to destroy this the fourth child, and the mother consenting to the operation I called as assistants Drs. Sweet and Bryant. I operated on August 4, 1893. On the evening of the third I gave a cathartic and moved the bowels thoroughly, and emptied the bladder prior to the operation; every antiseptic detail was carried out with cleansing and disinfecting the patient's abdominal surface and vagina. In all the steps of the operation the most rigorous precaution was observed. Morphia and belladonna with nux vomica were given to sustain the nerve centers during anesthesia by chloroform.

After the patient was under full anesthesia I made an incision to the peritoneum through the abdominal wall in the median line from four inches above the umbilicus to within two inches of the pubis. The peritoneum was opened on a grooved director with scissors, and the uterus lifted bodily outside the abdominal cavity and wrapped in hot antiseptic towels, the upper part of the wound was temporarily closed with silver sutures to restrain the abdominal contents; a broad, flat sponge was wrung out of hot bichlorid solution and placed posterior to the uterus over the abdominal incision for further safety; a rubber ligature was passed around the neck of the uterus to prevent hemorrhage. An incision four inches long into the uterus and penetrating to the sack was then made to prevent the escape of the amniotic fluid into the cavity of the abdomen. The child was removed from its lair with membranes intact, which were then ruptured and placenta removed; no vessels of any size were severed. The rubber ligature was taken off, uterus washed out with disinfectant fluid and the uterine incision powdered with iodoform. The edges of the wound of the uterus were brought together with deep interrupted sutures of catgut about one-half inch apart, made with a curved needle one-quarter inch from the edge of the incision through the muscular tissue of the uterus, but not including the mucous membrane. Sutures were tied firmly, but not so tight as to strangle the enclosed tissue. For the purpose of approximating still more the edges of the incision, a set of superficial stitches of silkworm gut were inserted between the other stitches about one-quarter the thickness of the uterine walls.

Careful inspection was made of the abdominal cavity, and we concluded not to irrigate because no blood or other septic material was found within the abdomen. The peritoneum was united with continuous sutures of silkworm gut; the abdominal walls were next coaptated with interrupted sutures of silk, the whole wound being dressed with iodoform gauze and absorbent cotton.

Within an hour the mother conversed joyously over a living babe, and myself and assistants were no less pleased than the brave mother. The next day her temperature was normal and but for slight vomiting from the anesthetic the patient was tranquil. On the third day after the operation, she had a little fever for the first, owing to secretion of milk; the temperature of 100 lasted one day. On the fourth day, temperature normal, and she furnished milk for infant, and the mother was anxious for food to appease her own appetite. On the fifth day bowels moved and temperature normal; on the same day dressings were changed, wound completely healed by first intention. On the tenth day of the operation no untoward symptoms. On the twenty-first day of the operation patient walked through the house and felt as well as ever, excepting muscular debility.

During a subsequent pregnancy in the same patient the husband urged a miscarriage to be performed, which I refused absolutely, not feeling justified in destroying a child which the mother desired to save. Under the present advancement in antiseptic surgery, when we have statistics to show that the fatality to the mother in craniotomy is 47 per cent., my answer was in the negative.

I was again called to see this same woman in labor at full term pregnancy on July 27, 1895, and gave morphia to control the pains and prepare her until next day for the second operation. The room had been washed in bichlorid solution, and sulphur fumigations had been used and thorough sprinkling with carbolic acid solution at the time of the operation, and the patient had attended to antiseptic baths and vaginal douches, and her system had been fortified by tonics. I was assisted in the operation by Drs. Sweet, Salts and Davis, with my wife as special nurse. The patient was anesthetized at 11 A.M., having first taken nux vomica and morphia. Only about 1 ounce of Squibb's chloroform was inhaled during the entire operation, which lasted fifty minutes. This time the case was somewhat complicated by reason of the placenta being attached near and over the os uteri, as in a case of placenta previa. I cut through the former cicatrix and found the wall of the uterus to be extremely thin. The rubber ligature was tightened, the child turned, to save time membranes were ruptured, child removed and turned over to Dr. Salts. Placenta quickly removed with all adherent portions of the decidua carefully separated. Ligature was loosened and uterus washed out with a disinfectant fluid through vagina. Hypodermic injections of ergot and strychnia were given. The uterine cavity and edges of wound were powdered with iodoform, after first being sponged nearly dry, and sutures and all subsequent details finished as above related in the first operation. The patient did not lose more than an ounce of blood at most; neither had I to ligate nor use torsion on any vessels. Her temperature never rose but one degree above normal after this the second operation, and that on the third day at the appearance of the milk; after that no rise of temperature and she furnished plenty of food for the child. On the fourth day the dressing was changed and found no irritation, wound completely healed by first intention. We irrigated the uterus twice a day as in the first operation for the first five days afterward, with a reflux catheter and a bichlorid solution, and the next five days once a day with warm solution of boracic acid. Finding no discharges after this the tenth day, we abandoned all further uterine

interference, believing that organ to be in a healthy condition which I think was owing to the antiseptic injections during and after the operation especially. She rode out five miles on the twenty-first day after the operation.

My judgment in the matter is, the Cæsarean operation is a superior one and should be generally performed when the child can not be born alive in any other way. The girl, two years old, after the first operation, and the boy after the second one, with the delighted mother, live and thus add a further triumph to the success of antiseptic abdominal surgery.

THE VALUE OF DIFFERENTIAL DIAGNOSIS IN DENTISTRY.

Read in the Section on Dental and Oral Surgery, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7–10, 1895.

BY V. A. LATHAM, M.D.

CHICAGO.

The subject of diagnosis is one of much importance to a practitioner, and the man who can diagnose rapidly and correctly is usually successful in his profession. In medical works great importance is laid on diagnosis even to such a degree that special works are written on the subject. Who does not remember the differential tables in nervous, respiratory and cardiac diseases, and the dread they inspired at examinations? Without their aid we are not able to diagnose our cases, and hence the urgency of requiring students to learn them. I have constantly been surprised at the difficulties which students encounter in dental surgery and pathology. Even a well-read student finds it hard to bring his knowledge to bear promptly and efficiently upon the patient before him. The recognition of the several symptoms which the student has learned from lectures or reading can be best directed by the teacher at the side of the operating chair, just as it is at the bedside in medicine; but in his absence it is not always easy for the student to get a clue to the nature of the case before him. Every member of the dental profession can recall the days of his service in the operating room, and remember his difficulty in procuring help from the professor or his assistant, for as a rule, the corps of instructors in our colleges, medical and dental, is much too small to allow more than a passing glance or word to any inquiring student, and he does the best he can. Whether this is a wise plan or not is a subject for discussion, for several reasons. First and foremost, the student is incapable, in the majority of cases, of understanding the treatment of his earlier cases. Again, the patient, even a charity case, under these conditions is entitled to good judgment in his diagnosis, though willing to submit to the student operator; his position demands the supervision of a chief, not only for the care and result of the operation, but for the welfare and regard of the institution in which the operation was held. It is not always a patient's fault that he is a public case, and indeed we, as a class of students, graduates or undergraduates, must remember it is through their misfortune we obtain our practical experience, and so ought to give every care and attention to do the best we can for the "subjects of the clinics." The larger the clinics, the more benefit we may derive from them. The larger the corps of capable demonstrators under the guidance of an experienced diagnostician as "chief," the more practical and successful professional men and women we become.

It is evident that before any one can successfully treat a disease, he must be acquainted with its nature and the symptoms it produces. For instance, before prescribing for a patient suffering from pain in the head, he must ascertain from what that pain arises. It may result from a carious tooth, when treatment or extraction will give relief; or from periostitis, when potassium iodid will be beneficial; or from constipation, for which only a purgative is required; or again, it may be symptomatic of an incurable disease of the brain, which might be aggravated by many of the remedies well fitted for the cure of a less formidable disorder.

Diagnosis is the science which teaches us thus to distinguish one disease from another, and to trace symptoms to the causes from which they spring. Now diagnosis is valuable not only for treatment, but it enables you to form an accurate opinion as to the future course of a disease. For example, two persons may complain of palpitation of the heart; in the one you may be able to prove that the organ is healthy in its structure, but unduly excited by disordered digestion; in the other, you may find it affected with an incurable disease that may at any moment terminate your patient's life. It seems a curious fact that works on dental surgery are so very imperfect and rambling on the subject of diagnosis. I doubt if any branch of medicine is so poor in this respect. And although the dental section may be given grace on account of its late arrival, still it is a matter of regret that our text-books should be so much behind, and research so slow in progress, that is slow in availing itself of so many new facts introduced from science generally. What is the reason? I am afraid it lies in five sources:

1. The hurry to obtain a diploma.
2. The study of *only just* what seems absolutely necessary in the practice of dentistry, and a corresponding inability to apply general principles.
3. The fear of encroaching on general medicine.
4. Insufficient preliminary *education*.
5. Lack of a thorough knowledge of the *normal conditions;* and a habit of relying too much upon one mode of treatment.

Diseases are distinguished from each other by such alterations in the organs themselves or in their secretions as can be ascertained by the senses of the observer (physical signs); or by changes in the functions of the parts affected (symptoms). The physical signs are least liable to misconception, inasmuch as we are independent of any suggestion on the part of the patient. Thus we see a carious tooth or an exposed pulp, or a swelling we know that there must be some abnormal condition of the part. Physical signs can not be exclusively relied upon for the formation of a diagnosis; the symptoms and history of the case must also be taken into consideration. It is generally difficult for a student to guide a patient's account of his complaint in such a way as to derive the necessary information from it. Most persons ramble in describing symptoms, and insist in many cases on giving their own or other person's opinions as to the nature of their disease, instead of confining themselves to a narration of facts. The only way to overcome this is by conducting your examination in a systematic manner, and by having a definite aim in every question you ask. Students are apt to suppose that some particular sign or symptom is sufficient to indicate each disease. Unfortunately, this is not the

case. On the contrary, we can rarely diagnose any morbid condition without taking into consideration a number of symptoms; indeed we are often forced to determine the nature of a malady by proving what it is *not* rather than what it is, diagnosis by exclusion.

The subject of "taking cases" ought to be insisted upon in all medical and dental hospitals and colleges, and all students should be required to examine cases and to write out their histories in their operating or clinic service, the reports to be read and criticized before the class by the professors of the several subjects. To know which points are the important ones is anything but easy, and can only be acquired by experience, and through sound teaching. How many valuable cases become wholly worthless from the reason of bad or incomplete histories is only known to those in the profession who try to do legitimate and scientific study. Hospital internes are generally poor history takers because they are badly trained, and are often overwhelmed with work, the number of patients allotted to each interne being too great to permit thorough, painstaking work. This is often injustice to the patients, and always so the interne; for the value of his appointment lies in the opportunity for the close study of his cases, under a staff of skilled consultants, from whom he can inquire concerning obscure points in signs and symptoms, and whose discussions and remarks upon treatment and results serve to impress the points indelibly upon his memory. For this training he gives his time and strength, and certainly has a right to all the privileges of his position; he ought not to be worked like a machine! It is not the number of gold fillings inserted in a day, but the nature of the caries, its etiology, treatment and results we are after. What good is it to teach a student to insert a gold filling with a perfect adaptation and contour if he does not recognize the variety of decay, the resistance and pathologic conditions offered by the histologic elements, the condition of the gums, the development and articulation of the maxillæ and teeth, the state of the secretions of the stomach and oral cavity, as well as the general condition of the patient? It is worse than useless to expect good results, except by chance, without accurate knowledge on these vital points. For we must remember that the general health will permit only of temporary measures in such constitutional states as diabetes, locomotor ataxia, pregnancy and in convalescence from the acute fevers.

The most difficult problems, perhaps, we have to diagnose in dental pathology are the neurologic. Dental irritation is one of the commonest and most powerful causes of reflex nervous disturbances. We all know of many cases treated by the medical profession for months which might have been relieved by attention to the teeth. Understand, I do not mean to omit the medical treatment of such diseases as syphilis, malaria, neoplasms, and so forth. The terminations of the fifth nerve, namely the pulps, seldom allow increased circulation because of the resistant walls surrounding them, by which the entire pressure is reflected back to the central nervous system and to all peripheral nerves. Even when the sufferer indicates a special tooth, we may find the trouble in the other jaw and on the opposite side. It may not be amiss to consider here some varieties of pain and their indications. Two sources of dental pain are: 1, the nerves of the tooth-pulp; the dentinal fibrils and the contents of the inter-globular spaces of dentine; 2, the alveolo-dental periosteum.

Pain arising from the pulp and from the dentinal fibrils is always the same in character, but may vary in degree. The pulp and protoplasmic elements of a tooth may set up a localized pain; but usually the pain arising from these structures is now localized, being felt at a distance. Periosteal disease, on the contrary, invariably causes local pain, and never pain at a distance, or only such as is quite insignificant when compared to local pain. Thus, true neuralgia never arises from uncomplicated alveolo-dental periostitis. Neuralgia, therefore, never arises uncomplicated from a dead tooth. This, as proven by experience, helps us to arrive at a correct diagnosis of the cause of one variety of dental pain. Often obstinate cases of obscure neuralgic pain can be cured by curing alveolo-dental periostitis of a dead tooth. This may be explained by assuming that the periostitis is complicated with some irritation or inflammation of a neighboring pulp; which irritation or inflammation may be passed on from the inflamed periosteum to the pulps in its proximity by continuity of tissue. When this is the case, the pulp is attacked from the proximal end, the inflammation following the apical foraminal nerve and vessels. Where alveolo-dental periostitis occurs in live teeth, there is almost always some irritation or inflammation of the pulp, which may be secondary or otherwise. The following are modes of diagnosticating causes of pain, in or from the teeth.

1. Explore with the mirror and a sharp pointed probe, find the cavities, then test for living or dead pulps. If the deep cavities are sensitive or the nerves exposed, here is the probable cause of the pain. These are our easy, straightforward cases. If, however, no pulp canals are open, then we must

2. Test by percussion and thermal changes. If the pulp is found unduly sensitive hyperemia and irritation are indicated; if insensitive to thermal changes, partial or complete necrosis may be diagnosed. (The heat test must be applied for some time, so the tooth feels hot to the finger, before necrosis can be regarded as proven.) This is not always true, though it is fair to conclude that hypersensitiveness to thermal changes indicates the tooth as a probable cause of neuralgia; while diminished sensibility is as often a sign of partial or complete necrosis. If we are still doubtful

3. Drilling is justifiable, for if the pulp be alive, though much receded by calcification, pain will generally be felt by the cutting of the dentinal fibrils before the pulp is reached. Carefully distinguish, however, between pain caused by the pressure of the instrument in cases where alveolo-dental periostitis is present, and that due to hyperemic pulp. Any branches of the fifth nerve in the head, face or teeth, or even more remote nerves, as the superficial cervical or even the brachial nerves, may be the seat of neuralgic pain arising from any tooth on that side. The pain, however, never crosses the vertical median line, often the faulty teeth being unsuspected by the patient. Reflex neuralgia from such a tooth may occur anywhere, but usually its favorite location is where the nerves emerge from foramina and where they anastomose. There are also certain preferred sites for certain teeth. For example, pain in the ear and pain shooting down the shoulder and into the arm, if dental in origin, is almost certain to arise from an inferior tooth. Pain, supra- and infra-orbital, almost

always arises from a superior tooth. Temporal pain, pain in front of tragus over auriculo-temporal nerve or parietal pain, "parietal focal spot," usually arises from a tooth in either mandible. Pain felt in one tooth is often due to a companion tooth in other mandible. Pain widely diffused in character, *i.e.*, shooting along many branches of the fifth nerve at one and the same time is usually from a tooth far back in the mouth, third molar. Pain of a live pulp is not continuous but capricious, lasting a short time and suddenly disappearing, periodic in appearance, frequently benefited by medicines, as salicylate of soda, quinin and other tonics or stimulants. In both these particulars neuralgia arising from the pulp agrees with neuralgia arising from unknown or constitutional causes (idiopathic neuralgia). This similarity of behavior has often led to a false diagnosis of the etiology of neuralgia on the part of physicians and dentists. The pathologic pulp which causes neuralgia of the usual capricious character is often in a state of chronic inflammation; acute pulpitis seldom reaching the dental surgeon in the early stage, the pulp soon dies. In pulpitis, cold alone is acceptable to the patient for giving relief, periosteal symptoms being nearly always present. Nerve exhaustion means increased nervous irritability. Anemia of young subjects, especially, causes severe neuralgia to arise from such slight causes as exposure of dentine at the necks of the teeth, through irritation of the dentinal fibrils and their canalicular terminations.

With regard to etiology of dental periostitis and pulpitis, the diplococcus pneumoniæ may be regarded as a factor, usually accompanied by the staphylococcus pyogenes aureus and albus. Long continued pulpitis may cause inflammation of the antrum just as well as a severe catarrhal inflammation can do so. Non-eruption of the teeth, which is very hard to diagnose in the early stages, can also cause a purulent condition of the antrum, and may give frequent and persistent neuralgia, as well as trismus from irritation of the inferior dental nerve.

Causes of neuralgic pains are: 1, sensitive dentine; 2, fibroid pulps; 3, crowding; 4, necrosis of pulp in a confined space; 5, exostosis; 6, alveolar periostitis; 7, filling over exposed pulp; 8, malpresentation of third molar; 9, rheumatic and gouty diathesis; 10, anemic and chlorotic states; 11, serous calculus on roots; 12, malaria; 13, pulp nodules; 14, sympathy; 15, recession and absorption of gum and alveolus; 16, pressure of gases in the pulp chamber; 17, traumatism.

The most pernicious form of neuralgia is that which is due to septic influences occurring after some traumatic injury, in which paresis or paralysis of the nerve effected sometimes follows.

Differential Diagnosis between Antral Abscess and Ozena.—Points in favor of the former are: 1, the presence of pulpless teeth; 2, a shortening of the face from the oral cavity to the orbit; 3, accumulation and sudden reaccumulation of pus, showing at the hiatus, in middle meatus, half an inch from anterior extremity of inferior turbinated bone; 4, discharge of pus increased on putting patient in horizontal position, especially on the sound side; 5, relative darkness over the diseased maxilla when the bones of the face are illuminated; 6, puncture through nose and aspiration of fluid; 7, the presence of carious teeth, especially roots, in upper mandible. Bulging of the cheek and deformity of the jaw are not always present. Ozena is recognized by: 1, characteristic fetid discharge; 2, olfactory anesthesia; 3, detection of denuded necrosed bone in nares; 4, presence of crusts of dried secretions and ulcers, especially in naso-pharynx; 5, the teeth may be normal; 6, diathesis (syphilitic or strumous).

The following appended tables may be useful:

Sensitive Dentine.	*If the Pulp is Sensitive.*
When the examination over a considerable part of the cavity walls does not respond to simple pressure. Pain is not persistent.	When the examination is made near the pulp, it responds to pressure.
Hyperemia of the Pulp.	*Pulpitis.*
Pain of boring character; tooth highly sensitive to hot and cold temperatures, and painful in mastication and on pressure. Hard to distinguish from exposed dentine. Absence of throbbing pain (pathognomonic of pulpitis); serious neuralgia may be a symptom.	Pain of a boring character rapidly increasing, assuming a throbbing form, extending from the diseased tooth to the neighboring teeth and to the side of the face, the tooth forming the center of its intensity. The larger and younger the pulp the greater the pain. In time the pain subsides, to return though on the slightest provocation, or the horizontal position being resumed. Pulp injected with blood throughout, the the exposed part deeper in color.
Chronic Pulpitis.	*Necrosis of Pulp.*
Pain less severe than in the acute form, not very intense nor long in duration when present. Comes on at irregular intervals—often vague neuralgic pains. Sudden changes of temperature, or applications of irritants will produce a paroxysm of pain, lasting from a few minutes to hours. Pulp shows inflammation limited to exposed spot, the rest pale and healthy.	Pain becomes changed to a dull heavy ache with a feeling of tension. Tooth feels too long, raised in alveolus by the pericementitis and periostitis, and loosened; may have some swelling at the side, on the gum or at the root; a change of color can be seen by strong light, the dead tooth having a dark line in the pulp region.

It is often difficult to distinguish pulpitis from hyperemia. In hyperemia the throbbing character of the pain is not so well marked and the pulp usually not exposed. Pulpitis must also be distinguished from periostitis; the differential points being as follows:

Pulpitis.	*Periodontitis.*
Pain—sharp, lancinating or throbbing, intermittent and reflected within the tooth.	Pain, dull, heavy and constant, and without the tooth.
Thermal changes cause pain.	Thermal changes do not cause pain.
Pressure or percussion on tooth gives no pain at first.	Pressure or percussion on tooth gives pain from the first.
Slight pressure on a piece of wool in cavity generally gives acute pain.	Slight pressure does not give pain except through pressure transmitted to the periosteum.
With pulpitis we may have pericementitis by continuity.	Tooth loosens and elongates.

A student may be well versed in the sciences of his profession, and yet unable to diagnose the simplest case of disease presented in actual practice, simply because the knowledge has not become his own in sufficient degree to enable him to comprehend appearances. Diagnosis, to be useful must not only be clear and satisfactory to our own minds, but made so plain to those in charge of the case as to render them alive to the real necessities present, thus securing that coöperation without which treatment will be ineffectual, if not actually a damage to those we essay to

benefit. No diagnostician who is conscientious as well as competent will set up his own opinion as the standard, but will always rely upon the perception of those to whom he wishes to make the diagnosis plain, and in this very idea is the safety; for the recapitulation of the case may reveal points previously unnoticed, so giving certainty and confidence to the patient and himself. To become a good diagnostician, it is imperative to understand principles and laws, in preference to formularies and modes; and to comprehend these, one's powers must not only be good, but kept in constant use, thus insuring the best and latest methods, reading and experience.

808 Morse Avenue.

FADS AND "ADS."

Read before the Southeastern Missouri Medical Association.

BY W. P. HOWLE, M.D.

ORAN, MO.

Who is there, these days, without a "fad"? Every man has at least one, some have many, whether they know it or not. Doctors are especially prone to this trouble. One doctor's fad is writing and reading articles for his medical society, another doctor's fad is to object to everything written or said. I know a doctor whose fad is fine horses. He thinks a doctor without a fine horse is no doctor at all. I know another doctor whose fad is a cleanly office, and he is disgusted with any doctor who does not keep his office clean. I know another doctor whose fad is to have an office in such a condition that all are disgusted who enter it. Iodoform or carbolic acid is the first thing you smell, and dirt is found in and upon everything he handles. If asked why he indulges this fad, he claims it is because he is so enormously *busy* that he has no time to clean up. Keeping a dirty office is not his only fad. His principal fad is to impress upon every one that he is a wonderfully busy doctor. I have a neighbor (and this reminds me that some people's fad is talking about their neighbors, but I am not talking about mine), but as I said before I have a neighbor who invariably tells me every time he sees me how much work (practice) he has done. I have another neighbor whose fad and "ad." is loud talking. He is always known when he is in town. He talks in a loud voice to his friends across the street, saying: "How are you?" "How are you to-day?" "How are your folks?" "Why, hello, Jim! I'll see you directly, I am *busy* now." Fads and ads. go together. Each of us have more or less egotism. We may be modest in the main, but the doctor who has no weak point is an exception. So much for fads and ads. which do little harm and are to some extent excusable. But the object of this paper is to call attention to a fad that is doing the profession, and through it the laity, more harm than all other fads combined. I refer to our daily use of *proprietary compounds*. This is an everyday fad with the majority of us. Some of us indulge this fad in one way, some in another. We prescribe these compounds for several apparently good reasons: They are generally palatable; some of them are quite reliable; it saves time and trouble in prescribing. For instance, I believe that quinin and iron are indicated in a certain case, I prescribe someone's elixir of quinin and iron already made. The dose and proportion may not be exactly what I want, but through laziness or carelessness I fall into the trap for me. These compounds, as a rule, are labeled and indication given, and some have an extra wrapper, on which are reports of cases treated and results. These we do not order, but the smooth manufacturer saw the point. He knew if the doctor prescribed the compound the curiosity of the patient would lead him to read all about it, after which the patient gets a fad of his own, and that fad consists in buying these compounds without consulting the doctor. So you see there is an "ad." and fad in this connection that makes it interesting. Look at such remedies as —— hypophosphites, maltin, bromidia, listerin, —— emulsion and the host of other proprietary medicines. They are being bought at *exorbitant prices* because we recommend them. See the unfairness, if not rascality, that is hidden over our signatures. When you write a prescription and mention calomel as an ingredient do you call attention to its many virtues in other complaints beside the one you prescribe for? In prescribing quinin do you give it such a "send off" as do the manufacturers of —— give their products? If you do not, and do not think it right to do so, why do you prescribe these compounds? You know that they are being "puffed" by their makers to a greater extent than many patent nostrums, and we know comparatively as little about some of them as we do of —— sarsaparilla. One of my fads and ads. is not to prescribe any remedy with an almanac attachment. As a rule, I make my own prescriptions. Once in a while I prescribe acetanilid; I don't know how it is made, nor do I know exactly how calomel and quinin are made. I know that quinin is made of Peruvian bark, that calomel is made of mercury and that acetanilid is a coal-tar product; but none of these have an almanac attachment. They are simply labeled and the patient can not tell from that label what they are made *of* or *for*. And I get in another of my fads by *telling* him (for his money's sake). I am tired of assisting ready-remedy-makers in swindling the profession and, through it, their patrons. This article is written to draw out the opinions of the Society on this subject. I brought the matter up at our last meeting and no one would back me in condemning this fad; but to-day I think I have backers who will point out our error in this matter in ways that I have not mentioned. I appeal to you again and ask each of you to express himself fully. I believe we are all guilty. If we are and can see that we are doing wrong, why shall we not stop? We save time and trouble at the expense of study and duty. It is a sad comment, but some of us are actually too lazy to make out a prescription of our own, and in its stead we write the name of somebody's compound, labeled with directions not only for the complaint we are treating, but for divers others. We read in our journals that —— is a specific for la grippe. We take the fellow's word for it and prescribe it. This is a fine way to learn and practice medicine, a *nice* way to study our cases and to learn what is the real lesion in la grippe. La grippe, like malaria, assumes many phases, but it is evident the routine prescription of any one remedy is wrong. Let us study medicine and pharmacy for ourselves. Let us make out our own prescriptions. In fact, let us do our duty as physicians and cease patronizing ready-remedy-makers. We can never restore medicine to its proper sphere by connivance with drug manufacturers. We ought to be teachers of pharmacy instead of its dupes. The proprietary vendor, taking advantage of our laziness and credulity, tells us that he can make our work easy,

light and pleasant; that he has a remedy, a certain noted physician's prescription, which is giving grand results; it is composed of this, that and the other, and is superior to anything known for prevalent diseases. We now have nothing to do but prescribe it and the work is done. The pharmacists have come to our relief. They have analyzed diseases for us, found out the remedy; *they know it all!* We fall into the trap; we cease to investigate; we step down and out while the pharmacist takes our place. We can play *granny and nurse*, but the proprietary man does all the rest. Twenty years from now, if the fad is not "sat down on," the medical student will have to go to the drug manufacturer's establishment for medical knowledge; there will be no colleges. The proprietary man is trying to usurp our place, but is unwilling to teach what he *pretends* to know. You ask him how he makes his product. He will give you a formula, but at the same time tell you he has a *secret* process of *combination*. The true physician has always been and is still willing to publish any and all he knows, but the proprietary man says: "Oh, no! I can not tell you *how* I make my compound. I am making money while you, my dupe, are growing poor. I, with my stolen knowledge, am growing rich, and you are silly and lazy enough to help me." Do you not think it time to call a halt? I do; and I move that this Society refuse hereafter to give any man's compound, who refuses to tell *of what* and *how* it is made.

ANASTOMOSIS OF DUODENUM.

BY C. P. THOMAS, M.D.

EVERETT, WASH.

The patient, J. G. W., was brought to the Everett Hospital Feb. 13, 1896, shot in the abdomen, at close range, with a 38 caliber revolver, ball entering about three inches above and one inch to the left of the umbilicus, and lodged in the back. The abdomen was opened an hour after the injury was received, by a four-inch longitudinal incision at the bullet wound. The cavity was filled with blood; the patient in extreme shock and pulseless. A large hole in the mesentery, which was bleeding profusely, was closed with catgut. The duodenum had two small holes in it about six inches from the stomach, which were closed with fine silk by the Lembert suture. Another perforation was found about ten inches from the stomach which nearly severed the gut and tore the mesentery at the same place. This portion of the gut was resected and end-to-end anastomosis made with the Murphy button. No other perforations could be found. There had been but little escape of the intestinal contents before the operation, owing to their having been empty, and none since. The peritoneal cavity was closed with glass drainage without much irrigation or sponging, owing to the extreme condition of shock which existed. Considerable difficulty was experienced in bringing the ends of the gut within the bowls of the button, owing to the thickness of the gut and to the purse-string sutures having been placed too far from the ends of the gut, and in order to be sure that the serous surfaces were in perfect contact, a continuous silk suture was placed around the entire line of union. The time required for the operation was forty-five minutes. The drainage was removed the fourth day and liquid diet begun the sixth day. Half of the button was passed the tenth and the other half the thirteenth day. It was found that the secretion of the stomach had destroyed the catches on the springs, which allowed the button to separate. Patient's recovery has been uneventful; he remained in the hospital but four weeks. The button used was one made from a cut which appeared in the *Medical Record* in 1893. It differed but little from the genuine Murphy button which I now have and will use in the future. Preparations had just been made for an operation for appendicitis on another patient, when he was brought in, thus no time was lost in beginning.

The points of special interest are that the anastomosis was done in the duodenum and that the button came away in two pieces.

A FEW NOTES ON EPILEPSY.

BY L. PIERCE CLARK, M.D.

ASSISTANT PHYSICIAN TO CRAIG COLONY FOR EPILEPTICS.

SONYEA, N. Y.

The peculiar ideas that epileptics entertain about their attacks are well illustrated by some of their remarks in describing their seizures. Two or three characterized their fits as "dreamy spells." These were minor attacks in which consciousness was not completely lost, but there was confusion of ideas and a paralysis of will over many of the voluntary movements of the body. These have been designated as psychic attacks by some writers, but by others they are still classed with petit mal. The latter class of diagnosticians regard the subdivision, psychic, as an unnecessary refinement in classification and one not fully justifiable clinically.

One patient has designated his aura in a dramatic manner by saying: "First red, white and blue, followed by a sensation of falling down, down for a long distance; then darkness." During the attenuation of consciousness, the brain has time to record many sensory phenomena. As the elements of consciousness begin one by one to die out, they disturb the time and space relation to a remarkable extent, as on careful inquiry this patient did not remember in a single instance of striking the ground or floor.

Another patient describes the beginning of his attacks in a very hopeless manner. He is attacked by great mental depression in which he is "suddenly stunned by an indescribable sorrow;" this in turn is followed by a "feeling of extreme physical languor, then unconsciousness."

The description of the aura as a vapor, of the ancient Greek designation, has a counterpart in the case of V. S., who says: "There is a kind of wind or vapor which fills my head full to bursting before I get dizzy at all." The wind or vapor idea is established firmly in his mind as a part of his epilepsy, because he is periodically troubled with flatulence and sometimes these periods are concomitant with his seizures.

One patient, who has an epileptic sister, seems to have been thoroughly tinctured with the contagious and infectious idea so prevalent among us at present. She firmly believes that her sister contracted epilepsy from her because they occupied the same bed at night. She carries the idea still further and manifests a great dislike in being obliged to bathe at the same lavatory with those who have a worse form of the disease than she, lest she should contract the severer form. After hearing the patient's description of her sister's seizures, the idea of contagion does not seem so prepos-

terous or wrong, as they partake more of the nature of hysteria than of true epilepsy. They are of such a character that it sometimes takes "three or four men to hold her lest she does injury to herself or others." She is quite prone "to tear her hair" and inflict other bodily injuries upon herself. The symptoms in this case seem to point very strongly to hysteria instead of to epilepsy. Hysteria might easily make its appearance under such circumstances, especially when a member of the family, living with the epileptic, was "nervous and sensitive" and proved an easy subject for suggestion by being constantly associated with a living example. We see an analogy to this in the cases cited by Mercer, Esquirol and others, in which it seemed that other sisters and brothers became insane through association with members of the family who were suffering from insanity previously, this being induced through the influence of suggestion upon a weak and unstable nervous organization.

Although such ideas as have been above recorded are prevalent among epileptics, yet however awful and severe they may appear to them, it does not preclude hope of relief from their severe malady, but makes them even more hopeful than the phthisic patient.

RESEARCHES ON RAPID PHOTOGRAPHY BY MEANS OF EDISON'S KINETOGRAPH AND THE ANIMATED REPRODUCTION WITH THE KINETOSCOPE.

SHOWING ALSO BY THIS METHOD THE PRESENT AND FUTURE POSSIBILITIES OF TAKING AND RE-PRODUCING CERTAIN ANIMATED PHYSIOLOGIC MOVEMENTS AS THE LARYNX, HEART, INTESTINES, ETC., AND CERTAIN DISEASES HAVING VISIBLE SYMPTOMS, ETC. WITH A HISTORIC REVIEW OF FIFTY YEARS OF PHOTOGRAPHY.

Read before the French Academy of Medicine, Paris, February, 1895, and in the Section on Physiology and Dietetics, at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7–10, 1895.

BY J. MOUNT BLEYER, M.D., F.R.A.M.S.

Fellow of the Royal Academy of Medicine and Surgery, Naples, Italy; Corresponding Member to the Mexican Academy of Medicine; Corresponding Member Société D'Electro-thérapie, France; Member Electrical Association of New York; Member American Medical Association; Member of the French Laryngological Society, Paris, France.

NEW YORK.

(Concluded from page 677.)

Then followed some experiments with drums, over which sheets of sensitized celluloid film were drawn, the edges being pressed into a narrow slot in the surface, similar in construction to the old tin-foil phonograph. A starting and stopping device very similar to the one now in use was also applied. The pictures were then taken spirally to the number of two hundred or so, but were limited in size, owing to the rotundity of surface, which brought only the center of the picture into focus. The sheet of celluloid was then developed, fixed, etc., and placed upon a transparent drum, bristling at the outer edge with brass pins. When the drum was rapidly turned, these came in contact with the primary current of an induction coil, and each image was lighted up in the same manner as described in the previous disk experiment, with this difference only, that the inside of the drum was illuminated.

Edison and Dickson made the next step by adopting a highly sensitized strip of celluloid half an inch wide; but this proving unsatisfactory, owing to inadequate size, one-inch pictures were substituted on a band one and one-half inches wide, the additional width being required for the perforations on the outer edge. These perforations occur at close and regular intervals, in order to enable the teeth of the locking devise to hold the film steady for nine-tenths of the forty-sixth part of a second, when a shutter opens rapidly and admits a beam of light, causing an image or phase in the movement of the subject. The film is then jerked forward in the remaining one-tenth of the forty-sixth part of a second, and held at rest while the shutter has again made its round, admitting another circle of light, and so on until forty-six impressions are taken a second, or 2,760 a minute. This speed yields 165,600 pictures in an hour, an amount amply sufficient for an evening's entertainment, when unreeled before the eye. By connecting the two ends of the strip, and thus forming a continuous band, the pictures can be indefinitely multiplied.

For this system the advantage is claimed by them over a continuous band, and of a slatted shutter forging widely ahead of the film, would be this, that in that case only the fractional degree of light comprised in the 1-2720 part of a second is allowed to penetrate to the film at the complete sacrifice of all detail, whereas, in the present system of stopping and starting, each picture gets one-hundredth part of a second's exposure, with a lens but slightly stopped down; time amply sufficient, as any photographer knows, for the attainment of excellent detail even in an ordinary good light. It must be understood that only one camera is used for taking these strips, and not a battery of cameras, as in Mr. Maybridge's photograph of "The Horse in Motion."

The next step they take, after making the negative band, is to form a positive or finished series of reproductions from the negative, which is passed through a machine for the purpose, in conjunction with a blank strip of film, which after development and general treatment, is replaced in the kinetoscope or phonokinetoscope, as the case may be. When a phonograph record has been taken simultaneously with such a strip, the two are started together by the use of a simple but effective device, and kept so all through, the phonographic record being in perfect accord with the strip. In this conjunction, the tiny holes with which the edge of the celluloid film is perforated, correspond exactly with the phonographic records, and the several devices of the camera, such as the shifting of the film and the operations of the shutter, are so regulated as to keep pace with the indentations made by the stylus upon the phonographic wax cylinder, one motor serving as a source of common energy to camera and phonograph, when they are electrically and mechanically linked together. The establishment of harmonious relations bytween kinetoscope and phonograph was a harrowing task, and would have broken the spirit of inventors less inured to hardship and discouragement than Edison's veterans. The experiments have borne legitimate fruit, and the most scrupulous nicety of adjustment has been achieved, with the resultant effects of realistic life, audibly and visually expressed.

The process of "taking" is variously performed; by an artificial light in the photographic room, or by daylight under the improved conditions of the new thea-

ter specially erected. This building is known as the kinetographic theater. Entering, we are confronted by a system of lights and shades so sharply differentiated as to pain the eye. Later we find that the contrasts are effected by the total exclusion of light from the lower end of the hall, heightened by draperies of impenetrable black, against which stands out in sharp relief the central stage, on which are placed the kinetographic subjects, bathed in the full power of the color rays, pouring down from the movable roof. This distribution of light and shade is productive of the happiest effects in the films, as the different figures are thrown into the broadest relief against the black background, and a distinctness of outline is achieved that would be impossible under ordinary conditions. This theater in shape is irregularly oblong, rising abruptly in the center, at which point a movable roof is attached, which is easily raised or lowered at the will of a single manipulator. Its color is a grim and forbidding black, enlivened by the dull luster of many hundred metallic points; its material is paper, covered with pitch and profusely studded with tin nails. With its flapping sail-like roof and ebon hue, it has a weird and semi-nautical appearance, and the uncanny effect is not lessened when, at an imperceptible signal, the great building swings slowly around upon a graphited center, presenting any given angle to the rays of the sun, and rendering the operator independent of diurnal variations. The movable principle of this building is identical with that of our river swinging bridges, the ends being suspended by iron rods from raised center pots. The exigencies of natural lighting incident to the better "taking" of the subjects, and the lack of a suitable theatrical stage, etc., however, necessitated the construction of this specially devised building. This invention is due to Mr. Dickson, the chief photographer and engineer of the Edison laboratory. At the other end of the hall in this theater is a cell, indicated by an ordinary door and an extraordinary window, glazed in panes of a lurid hue, which gives the finishing touch to the Rembrandtesque character of the picture. The compartment is devoted to the purpose of changing the film from the dark box to the kinetographic camera, being provided with a special track from the mysterious recesses at the back of the stage to its own special precincts, where fresh films are substituted for the ones already employed. The process of developing, etc., is performed in the main photographic building of the Edison laboratory.

When any subject of a great magnitude is ready to be taken where there are more than one in number, they are kept as close together as possible, and exposed either to the glare of the sun, to the blinding light of four parabolic magnesium lamps, or to the light of twenty arc-lamps, provided with highly actinic carbons, supplied with powerful reflectors equal to about 50,000 candle-power. This radiance is concentrated upon the subject while the kinetograph alone, or in connection with the phonograph, is hard at work storing up the records and impressions for future production. For the reproduction of these photographic impressions a machine called the kinetoscope is made use of. It consists of a cabinet containing an electric motor and batteries for operating the mechanism which acts as the impelling power to the film. The film is in the shape of an endless band fifty feet in length, which is passed through the field of a magnifying glass perpendicularly placed. The photographic impressions pass before the eye at the rate of forty-six per second, through the medium of a rotating, slotted disk, the slot exposing a picture at each revolution, and separating the fractional gradations of pose. Projected against a screen, or viewed through a magnifying glass, the pictures are eminently lifelike, for the reason that the enlargement need not be more than ten times the original size. For exhibition purposes the projecting room must be hung with black, in order to prevent any reflection from the circle of light emanating from the screen at the other end, the projector being placed behind a curtain, also of black, and provided with a single peep-hole for the accommodation of the lens. The effect of these somber draperies, and the weird accompanying monotone of the electric motor attached to the projector, are horribly impressive, and one's sense of the supernatural is heightened when a figure suddenly springs into his path, acting and talking with a vigor which leaves him totally unprepared for its mysterious vanishing. Projected stereoscopically, the results are even more realistic, as those acquainted with that class of phenomena may imagine, and a pleasing rotundity is apparent, which in ordinary photographic displays is conspicuous by its absence.

Nothing more vivid or more natural could be imagined than these breathing, audible forms, with their tricks of familiar gesture and speech. The inconceivable swiftness of the photographic successions, and the exquisite synchronism of the phonographic attachment, have removed the last trace of automatic action, and the illusion is complete. The few illustrations accompanying this illustration show in every one of the pictures, and each succeeding one of the rapid photographs taken the details of the movement made within the time to that of completion can be seen by examining them closely. The rapidity with which the impressions are made is such that it is interesting to notice the slight difference from one to the other. Taking for instance, the organ-grinder, the monkey jumps upon his shoulder, and if the phonograph attachment is connected, the accompaniment of a strain of music from the organ is also heard. The rich strains of a tenor or soprano are heard, set in their appropriate dramatic action, the blacksmith is seen swinging his ponderous hammer, exactly as in life, and the clang of the anvil keep pace with the with his symmetrical movements; along with the rythmical measures of the dancer go her sounding footfalls; the wrestlers and fencers ply their intricate game, guarding, parrying, attacking, thrusting and throwing, while the quick flash of the eye, the tension of the mouth, the dilated nostrils, and the strong, deep breathing give evidence of the potentialities within. In fact, one can photograph by this means from every characteristic section of social, artistic and industrial life, and from many phases of animal existence. Still in selecting the themes for this rapid method of photography it needs utmost discrimination.

III.—THIS METHOD OF PHOTOGRAPHY IN THE SERVICE OF PHYSIOLOGY, PATHOLOGY AND LEGAL MEDICINE, ETC.

From what has been said and demonstrated in these pages, and can readily enough understand the object lessons taught us by these methods of rapid photography and the reproduction of its many graded animated photographs. What is the future of this all? Ask rather from what conceivable phase of the future

the kinetograph can be debarred. In the advancement of science in the revelation of unguessed worlds, in its educational and re-creative powers, and in its ability to immortalize our flitting but beloved associations, the kinetograph stands foremost among the creations of modern inventive genius. Mr. Dickson says, "It is the crown and flower of the 19th century magic, the crystallization of eons of groping enchantments. In its wholesome, sunny and accessible loves are possibilities undreamt of by the occult lore of the East; the conservative wisdom of Egypt, the jealous erudition of Babylon, the guarded mysteries of Delphic and Eleusinian shrines."

In the study of physiology the possibilities which are opened to us by this means are startling. No one can yet fore-shadow the coming researches to be made from time to time by this mode of rapid photography. Every phase of physiologic research will be possible. The microscopic lens and the kinetograph will be amalgamated into one and the infinitesimal world by this aid will yet be discovered. The pathologic symptoms usually witnessed in disease can be photographed, and life imbued into every one of them—thus giving us time to study them closer, and at leisure. The lecture room thereby will also be endowed with additional edification. This is an entirely new field which the modern explorer has got to travel and note down and make his geographic drawings yet.

To speak hastily here, the photographic art which was put early to the service of medical studies, was due the genius of Dr. Maddox of England, and who also discovered the bromid of silver gelatin emulsion process, and thereby bringing the photographic technique up to its high standard. The first who busied themselves with the experimental investigation in this line of photography were Marie and Czermak. They both made use of it in physiologic researches and even to-day some of their work can not be beaten; Czermak, also constructed the first apparatus for laryngoscopic photography. The pictures which were taken by this apparatus gave in detail every single part of the larynx. Since then others have photographed the larynx, by many different means. French of Brooklyn, N. Y., and myself also have done good work. Also we find that Ozolan of Paris in 1869 made use of the photographic process in physiologic studies, and specially designed a camera for photographing the heart beats. Since the early daguerreotype photography in medicine, many studies have been made in perfecting rapid and sensitive plates and those of Dr. Wm. G. Thompson's of New York City. With these he had been able to experiment in picturing the heart beats of animals and thus enlarged our knowledge in a heretofore unexplored field regarding the view of the diastole and systole of the heart in its movements in succeeding periods of time. This work promises to afford a valuable means of illustrating the action of drugs on the heart and of recording accurately any experimental observations upon the cardiac movement without the error of the personal equation of the observer. His photographs show a full diastole and a full systole, with a series of any number of intermediate views. These serve him as standards of comparison with photographs of the altered diastoles and systoles which occur under the influence of cardiac stimuli or depressors. There is no doubt that under such favorable scientific truths before us, Dr. Thompson can not fail to give us a full pharmacopeia and the therapeusis of the circulatory system and digestive tract. But what lies in store for us by means of rapid photography with the aid of the kinetograph and kinetoscope is at present hard to say—as many wanting technical applicances in the shade of microscopic lenses, etc., are still being experimented upon in this domain.

So also with photographing the larynx, in order to show the living movements of abduction, adduction of the vocal bands, vocalization dynamics, and under their various pathologic conditions, etc., with some additional devices all this can not fail to be accomplished.

In the study of microscopic subjects, a class of special interest, as lying outside of the unaided vision of man, it may be said, that in the treatment of these infinitesimal types, much difficulty was experienced in obtaining a perfect adjustment so as to reproduce the breathing of insects, the circulation of the blood in a frog's leg, and other similar processes of nature.

Mr. Dickson with his high grade of mechanical skill overcame such obstacles as laid in his way and succeeded in photographing and enlarging the animalculæ in a drop of stagnant water in which these animalculæ are suspended, which proved to be an exacting task. This was accomplished by the aid of a powerful lime-light, concentrated on the water, by the interposition of alum cells for the interception of most of the heat rays, and by the use of a quick shutter and kindred contrivances, the obstacles were overcome, and the final results were such as fully to compensate for the expenditure and time and trouble. Mr. Dickson, in speaking of this result, says: "Suppose that the operator has at last been successful in imprisoning the tricky water goblins on the sensitive film, in developing the positive strip, and placing it in the projector. A series of inch-large shapes then spring into view, magnified stereoptically to nearly three feet each, grewsome beyond power of expression, and exhibiting an indescribable celerity and rage. Monsters close upon one another in blind and indiscriminate attack, limbs are dismembered, gory globules are tapped, whole battalions disappear from view. A curious feature of the performance is the passing of these creatures in and out of focus, appearing sometimes really of their own size and proportions."

One can not help wondering at the progress and future of this branch of the science and the many uses in which it has already been called into service, taking a survey from records of the infinitely little and the infinitely great from microscopy, which deals with the invisible, to the vastness of astronomic wonders. I could here go on and cite many more instances to which this mode of rapid photography in medicine and other sciences could be put to, but suffice it to say, from what I have hinted at will prove good in all undertakings where motion and animation is wanted in demonstrating them in the study of any subject.

All the foregoing finished experimental work up to the present time are but the heralds of those to come out of the multiplying schemes which are on foot. Hitherto the limitation has been to the consideration of detached subjects alone, all of which are most successful, but Mr. Edison and Mr. Dickson are increasing the facilities to such an extent—high is their ambition—that a number of actors can be put into a group and taken. Also to increase the stage appointments, with a view to the presentation of an entire play, set in an appropriate frame. This work once made appli-

cable in this line, it can be indefinitely extended to any given phase which is desired to be reproduced. They speak of their method so confidently that it points to ultimate success. Every day adds to the security and the celerity of their undertaking. No scene, however animated and extensive, but will eventually be within reproductive power. The advantages of this method are simply countless.

In these preliminary pages which I communicate to your body, I only touch upon the subject before me in a very primary way, and prepare you for that which will follow in detail in a near future. This, however, is enough to show you that the birth of animated photography has taken place, and its new era can now be hailed by exclaiming, Eureka!

Since this paper was read Mr. Edison and others have succeeded in so improving the kinetoscope that to-day we have the realization of the foreshadowing of that vitascope by which it is possible to witness moving life-size figures of men, women and animals when thrown upon the screen by means of bright lights and powerful lenses. The original photographs, as by the kinetoscope and developed on the film roll, are about the size of a special delivery stamp, and to produce a life-size picture they are magnified about six hundred times. Each vibration of the film, or the apparatus which revolves it, is magnified in like proportions. With these possibilities, the kinetoscope will be another important piece of apparatus added to those of recent discoveries, put to the disposal of medicine.

NOTE.—I wish to express my sincere thanks to Mr. Dickson, chief of the Edison Laboratory, for the many points herein given which were taken from his private notes and sketches.

460 Lexington Avenue.

SELECTIONS.

On an Unpublished English Anatomic Treatise of the Fourteenth Century.—At the annual meeting of the British Medical Association held in London, August, 1895. Payne[1] exhibited to the Section of Anatomy and Histology the manuscript of a treatise of surgery prefixed by a short treatise on the anatomy of the human body, written by an English surgeon and dated the year of our Lord 1392. The name of the author is unknown.

The date of this manuscript is of much interest. A treatise on anatomy and surgery by an English author, written in the English language of the fourteenth century is undoubtedly unique although it is quite possible, as Payne suggests, that the MS. treasures of the British Museum and other great libraries may be found to harbor similar productions. The only documents comparable to it are the works of John Arderne, the translations of Lanfranc's Surgery, and translations of the French surgeon Henri de Mondeville. Payne calls attention to the importance of the fourteenth century in the history of English science as of English literature and theology. In literature and theology the verse of Chaucer and the prose of Wycliffe are sufficient examples. In science we have the notable work of John Arderne, the first English surgeon. The fifteenth century was uneventful. The Black Death and succeeding pestilences, and the wars of the Roses brought the progress of science and medicine in England almost to a standstill so that in the sixteenth century "when the revival of learning and the introduction of printing led men to take stock of their intellectual possessions, little more was done in practical medicine than to gather up the threads of the fourteenth century tradition." The works of Arderne and the unpublished treatise here mentioned had an extraordinary resurrection in the middle of the sixteenth century. The document of the unknown writer was a folio on paper, in double columns of 190 leaves, written in a very fine and very legible black letter. It may interest many of our readers to reproduce the preface as read by Payne:

"The Holy Trinity that is head and well of cunning, giver and graunter of grace to all tho that by her power trevailen truly about science and cunning; that is help and edification to his people, graunte you grace that this compilation shall have so for the usen and disposen the fruyt of medicyns and of worchynge in it conteyned that it turne specially to the worschipe of God and profit of the peple. The which compilacion of sirurgie I have compiled and drawen aftir the discreet autoritie of my moost worschipful maistris and predecessouris of the same science. And specialy aftir the noble counseil of my worthi maistir Lanfranke, puttynge therto worchynge that I have assaied and proved in my tyme and other expert medicyns y gaderid of dyvers worcheris that they also have assaied and proved, y compilid and endid in the year of our Lord MCCCLXXXXII. Wherefor I prie and counseile you that usen the worchinge in this doctrine, contynue that ye ben gracious and helpinge to the pore for Goddis sake, and to the riche for a competent salarie, and also that ye seien for his soule that compilide this tretis, and for all tho that helpide therto and for alle cristen a paternoster and an ave marie. And though it be so that I y sum tyme addynge and sum tyme with drawynge have transposid the ordynance of thes myn aforseid maistreis, and so by cause of ignorance have fallen othir while in to errour, I biseche you tendirly that it schal reden or heren or undirstonden that ye have me excusid, and that ye adden and fulfillen benygly the defautis in it conteyned after the decre of the worschipful Galen in the ij De morbo et accidente, and in the v and in the last chapitre leggynge this text. Olde mennys sawis schulen be declarid frendly of here feloweris, and if ther failen ony thing, it schal ben bi hem benygly fulfilled."

The first part includes the anatomy. It is divided into three sections called "Distinctions." The classification is as follows:

"The First Distinction hath seven chapters; treats of the definition of anatomy, and of embrion, and of all his consimilar members: 1, Definition of Anatomy; 2, Anatomy of Embrion; 3, Anatomy of Marrow, Bones, and Gristles; 4, Anatomy of Ligaments, Sinews, and Cords; 5, Anatomy of Arteries, Veins, and Gristles; 6, Anatomy of Brawnes, Lacertes, and Villis; 7, Anatomy of Fatness, Skin, Hair, and Nails. The Second Distinction hath fifteen chapters; treats of a man and all divers members: 1, Anatomy of the Head; 2, Anatomy of the Forehead; 3, Anatomy of the Eye; 4, Anatomy of the Nose; 5, Anatomy of the Mouth; 6, Anatomy of the Neck; 7, Anatomy of the Shoulder; 8, Anatomy of the Arm; 9, Anatomy of the Breast; 10, Anatomy of the Wombe; 11, Anatomy of the Matrice; 12, Anatomy of the Haunches; 13, Anatomy of Manne's Privy Members; 14, Anatomy of the Thighs, Legs, and Feet; 15, Recapitulation of all the Bones in a Man's Body. The Third Distinction treats of the four complexions, with the signs of the Zodiac, and has ten chapters."

Anatomy is defined according to Henri de Amanda Villa (Henri de Mondeville) thus: "Anatomy is the rightful division and knowing of a man's body, and of his single parts and members, the which body is the subject or the matter of all science of medicine and of sirurgery." The anatomy is a compilation from several authors but chiefly from Lanfranc, of Milan, and Henri de Mondeville. Lanfranc was born in Milan about the middle of the thirteenth century and died in Paris about 1306. His chief work was the *Chirurgia Magna* and the unknown author of this MS. quotes very liberally from Lanfrank's work. Henri de Mondeville, or de Amanda Villa, was a French surgeon, who died about 1320, whose name after centuries of neglect, has lately been brought into prominence and whose writings, thought to no longer exist, have recently (1893) been published in Latin and French. The French edition published by M. Nicaise, was reviewed editorially in the number of this JOURNAL for April 28, 1894. Our unknown writer follows precisely the arrangement of Mondeville as far as anatomy is concerned; he also quotes Mondeville by name very often. While this treatise appears to be founded entirely on the works of Lanfranc and Mondeville, there is one feature about the

[1] British Medical Journal, Jan. 25, 1896.

manuscript which Payne says shows that the writer, though a compiler, had a distinct individuality. He practiced in London. He speaks of the inefficacy of operation in carcinoma of the breast as follows:

"And furthermore to speak of this sikenes in woman's pappes, there was a worschipful riche woman in London in my tyme, the whiche had such a canker in her pappe, to whom weren clepid the most discrete worcheris of the Cyte, both of fisik and surgerie, among whom I was present, and worching in the same cause. But I seie surely evermore the malice encreside from day to day, and for al that we myghten do the sycknesse was so fervent that it profitid ful litil to the patient, so that not agenstondynge al our craft and cunnynge at the laste it is woundid and so the woman diede withynne short tyme aftir."

Speaking of the number of bones in the human skull, which was a disputed question, he says:

"But though it so be that we have tretid in this partie of these VI. bonys in the heed that ben necessarie to the dosinge and difference of the brayn. Netheless we afferme not that ther beth siche VI. bonys in ech mannys heed ffor truly I foond in the charnel of Seynt Marie spetil at London a scolle bone that was al oon hool boon lik a basenett, outtaken oonliche the ij. small petrouse bonys and the nether chekebon," etc.

In one part of his treatise he speaks of the four complexions or temperaments: sangueyn, coler, fleume and melancholie, and their connection with the signs of the Zodiac, the four elements, the course of the planets, etc.

The fate of this manuscript is interesting. It appears that it was copied and issued under another name as the author. Payne shows that the little work known as Vicary's Anatomy, printed in 1577 as: "A profitable Treatise of the Anatomy of Man's Body," must have been an almost actual transcript of the work of the fourteenth century surgeon. There are such extraordinary verbal agreements in Vicary's book with our author that any other interpretation is hardly possible especially in view of the fact that no reference to the literature published in the two intervening centuries is made in Vicary's book which would undoubtedly have been done had he compiled a work on anatomy. It may be concluded that Vicary was in possession of a copy of this hitherto unpublished MS. of which he made an abridgement. One does not like to look upon Vicary as an impostor, and there is, as Payne states, another supposition. Possibly Vicary did not profess to be the author. The only known printed edition of his work was brought out fifteen years after his death by his colleagues at St. Bartholomew's Hospital, and they may have found a manuscript tract which they regarded as Vicary's, though he had never claimed it as his. In any event the real author was the anonymous writer of the fourteenth century, about whom it would be extremely interesting to learn more.

The Pain of Renal Stone.—Before the Medical Society of London, Mr. Hurry Fenwick read a paper on the above subject, as reported in the *British Medical Journal*. He has had a series of uncomplicated nephrolithotomies to account for the difference which appeared to exist in the character and severity of the pain produced by stone in the kidney. He asserted that uncomplicated stones in the kidney could be divided into three classes: a, those lying loose in the pelvis; b, those under the capsule lodged in the cortex of the kidneys; and c, those contained in the fleshy part of the kidney, the columns of Bertini or pyramids. The pain and suffering in loose pelvic stones were usually typical. They evoked colics, radiations, and often bladder symptoms. The cortex stones did not evoke colics, radiations, or bladder irritability, but merely a severe fixed pain. The intermediate group (the parenchymatous class) partook of the characters of both, for the hollows in which they lay often communicated with the pelvis by fine channels. One prominent symptom seemed in many instances to separate the embedded stones from the pelvic stones. In the cortical stones the patient was forced to sleep on the kidney in which the stone was lodged, but could not turn, without pain, on the healthy side. Often in the pelvic stones the patient lay on the kidney of the unaffected side. Another sharp line of difference between the cortical and the pelvic stones was found in the urine. Pelvic stones usually caused pus in the urine within a year or so, but the cortical stones did not change the character of the urine, even after twenty or more years. "Dr. Rolfe followed with a paper on the cases of renal pain calling for medical, as distinguished from surgical, treatment. He divided the cases into those in which the pain was dependent on reflex nervous disturbance, and the so-called 'aching' kidney. The former is met with in association with valvular disease of the heart, more particularly aortic, and thoracic, and especially abdominal, aneurysm. The aching kidney, he suggested, was usually due to movable kidney, but was also met with as the result of tight-lacing, and from undue acidity of the urine or other excess of some normal constituent of the urine."

Epidemic, Rapid Termination of Diseases.—At a recent meeting of the Brussels Academy of Medicine, Rommelaere called attention to the peculiar asphyxia which so often occurs in diseases apparently progressing favorably, amounting at times almost to an epidemic. He does not refer to acute fevers, but to the cases of bronchial catarrh, chronic phthisis, typhoid fever, diphtheria, etc., which show no symptoms of a speedy fatal termination, and especially the cases of influenza. All is going well, auscultation indicates nothing definite, the prognosis is favorable, when suddenly the scene changes, intense dyspnea supervenes, with cyanosis, coma and fatal asphyxia, no medication produces any effect, and the patient rapidly succumbs. The necropsy reveals lesions indicating atelectasis. The pulmonary artery is choked with a clot, and the bronchial arteries are engorged. Repeated experiments showed that if a coloring liquid is injected into such a lung, the vascular arbor is colored by it, but the unexpanded portion is unaffected by it. If atelectasis is produced in a rabbit by the creation of a pleural fistula, and a coloring liquid injected, the sound side alone is affected by it. Even when the unexpanded portion is insufflated with air, the coloring liquid still does not pass into it. If an injection of methylene blue is made in the jugular of a rabbit in this condition, the sound lung alone shows the effect of the coloring matter. Rommelaere concludes from these facts and various experiments that this condition is due to arterial lesions and to some change in the blood, and sometimes to the presence of air in the pleura. This effect upon the vascular walls of the lesion of the blood in the circulation has already been noticed, especially in tuberculous phlegmasia, and modern bacteriologic investigations have distinguished the presence of the Koch bacillus, where the necropsy once revealed merely the simple fact of the obliterating arteritis. Rommelaere states it as his opinion that it will be found before long that the pneumococcus and staphylococcus are also capable of producing the same phenomena. It is already proved that Eberth's bacillus can penetrate the vascular walls and produce changes in the endothelium.—*Semaine Médical*, February 12.

The London Lancet Holds Out the Olive Branch.—The *Boston Medical and Surgical Journal* commends the course of the *Lancet* in its antagonism to the war spirit. It says: "In a recent issue the *Lancet* alludes editorially to the intimate and beneficial character of the mutual intercourse between English and American medical men during the last generation, and points out that if the question of peace or war were referred to medical men, there could be no question of the continuance of cordial relations. In the same issue, Dr. T. Lauder Brunton, under the title of 'Psychology of President Cleveland's Message,' points out that that message, while apparently warlike, was really pacific, and the time chosen, just before the Christmas season, was especially favorable for the two great nations which it concerns to put the proper, that is, the peaceable, interpretation upon it. The friendly feeling between the mem-

bers of the learned professions in England and this country is certainly a matter for congratulation, and it is pleasant to know that the influence of our valued English contemporary is for peace and good will."

Antiseptic Value of Subnitrate of Bismuth.—Since the introduction of naphthol, salol and salicylate of bismuth, our old friend, subnitrate of bismuth, is being neglected and some even assert that its action is merely plastic or mechanical, and declare that its action is valueless. But they are mistaken; it is a powerful bactericide; applied to wounds it heals them: arrests inflammation, suppuration and all putrid conditions, and owes to its microbe-destroying properties its recognized efficacy in gastro-intestinal disorders. These properties have been proved in many experiments, especially those of Gayon and Dupetit with the ferments of new wine. Its fine effects in fistulas and urethritis are evidently due to this cause also. The moment it comes in contact with moisture it seeks to resolve itself into its elements, oxid of bismuth and nitric acid, which readily explains its antiseptic action, for, as Duclaux remarks: "The presence of even a trace of nitric acid in an organic solution arrests the development of a host of microbes." The oxid also has germicidal properties. And this is not all. As soon as the subnitrate of bismuth reaches the intestines, it meets sulphohydric vapors which transform it into black sulphur, and thus liberate another acid and generate nitric vapors, which have a special antiseptic action on the putrid gas producing bacteria, as is well known. But in order to be effective it must be absolutely pure, not mixed with carbonate like the kind known in trade as "light subnitrate." Another important point is that it should be very finely pulverized; large grains become coated with the black sulphur and the inside remains intact, which accounts for the fact that the same dose to the same patient often produces different effects. CARLES in the *Archives Clin. de Bordeaux*, February.

AN ALBUMIN TESTER FOR URINE.

By JOHN W. ONEILL.
CHICAGO.

This Albumin Tester is designed to simplify and to increase the delicacy of the nitric acid test for urine. The apparatus is blown from glass tubing and bent in the form of the letter U. One limb, two inches in height and five-eighths of an inch in diameter, is practically a test tube. To the bottom of this and

curved upward to form the second limb of the U is a capillary tube, the open end being enlarged to form a small funnel. A narrow strip of black one-quarter of an inch wide extending from the top to the bottom of the large tube, for a background, will be an advantage. This can be painted or a strip of black paper fastened to the glass.

The urine to be tested is poured into the large tube until it reaches the level of the bottom of the funnel in the capillary tube ("A' in cut). The nitric acid is then dropped into the funnel; it passes down the capillary tube and up under the urine in the large tube without disturbing or mixing—lifts it up, so to speak. If albumin be present it is shown by a delicate white line.

1421 North Clark Street.

NECROLOGY.

WINTHROP SARGENT, M.D., who was at one time a prominent physician of Philadelphia, died March 16 at Roxbury, Mass., where he had resided and practiced his profession for several years. He was born in Gloucester, Mass., on July 8, 1822, and received his education in Dartmouth College, and subsequently studied medicine at the University of Pennsylvania, from which institution he was graduated in 1847. He entered upon the practice of his profession in Montgomery County, where he remained until 1855, when he removed to Philadelphia. He was for many years secretary and afterward president of the Montgomery County Medical Society. While in Philadelphia he was school director for six years. He was appointed surgeon in charge of the Government Hospital in Kingsessing in 1862. Not long after that his wife died and he removed to Boston.

WILLIAM SAVERY, M.D., died at his residence in Philadelphia March 13. Dr. Savery was attacked with the grippe about Christmas, which brought on rheumatic gout, to which his death is ascribed. Dr. Savery was born in Philadelphia Oct. 20, 1832. He was graduated from the Philadelphia College of Pharmacy in 1854, and was appointed resident apothecary and medical registrar at the Friends' Asylum for the Insane, and served in that capacity till 1860. He graduated at the University of Pennsylvania in the medical class of 1861, and was resident physician in the Wills Eye Hospital from 1861 to 1862. From April, 1862, to October, 1863, Dr. Savery was resident physician in the Pennsylvania hospital. He was also volunteer surgeon in the United States Hospital at Fredericksburg, Va. From 1870 to 1871 Dr. Savery was physician to the Winnebago tribe of Indians in Nebraska under appointment of General Grant. From 1872 until 1888 he was attending physician to the Hospital of the Good Shepherd near Bryn Mawr, where he engaged in private practice. Since that time he led a retired life.

JOB SYMMES CRANE, M.D., who died at St. Augustine, Fla., on March 26, was the senior practitioner of Elizabeth, N. J. He was in active practice until about two years ago, when he was taken with an apoplectic attack. Paralysis resulted, and he was lately sojourning in Florida, in the hope of receiving benefit to his health. He was a native of Elizabeth and a graduate in arts at Princeton College, and in medicine at the New York College of Physicians and Surgeons, class of 1849. He was a member of the New Jersey State Medical Society and of the AMERICAN MEDICAL ASSOCIATION as long ago as 1871. Dr. Crane was for many years one of the directors of the National State Bank and was one of the founders of the Union County Medical Society and an ex-president of the same. He was at the time of his death, president of the Union County Savings Bank, and one of the directors of the Home for Aged Women. He was also ex-president of the staff of the Elizabeth General Hospital and Dispensary, institutions which he helped to inaugurate in 1877.

THOMAS M. FRANKLIN, M.D., who died at Greenwich, Conn., March 22, was a graduate of the medical department of the University of the City of New York, class of 1847. He was one of the physicians to the Eastern Dispensary from 1847 to 1851, and a ward cholera physician in the early summer of 1854. He afterward held office in the Thirty-fifth Street Cholera Hospital. He was assistant physician at the Government Hospital for the insane in Washington from 1865 to 1872, and medical superintendent of the New York City Lunatic Asylums on Blackwell's Island and Hart's Island from 1878 to 1886.

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SATURDAY, APRIL 11, 1896.

PRACTICAL AIDS IN THE DIAGNOSIS OF PERICARDIAL EFFUSIONS, IN CONNECTION WITH THE QUESTION AS TO SURGICAL TREATMENT.

Pathologists are well aware of how often pericarditis with effusion is not recognized clinically. OSLER says in his Practice of Medicine that probably no serious disease is so frequently overlooked by the practitioner. The prognosis in extensive purulent effusion is grave. Medical treatment is practically of little avail and the results of paracentesis of the pericardium have so far been rather disappointing. An early and radical operation ought to increase the percentage of recoveries. A necessary prerequisite for operative treatment is a reliable diagnosis. EWART,[1] the well-known writer on physical diagnosis, summarizes in a timely article numerous practical points to aid one in the diagnosis of pericardial effusion, especially when this is large enough to raise the question as to surgical interference.

EWART, stimulated by an early mistake, worked out for himself a complete method of physical examination, the underlying principles in which are: 1, accurate percussion and palpation; 2, careful auscultation; and 3, observation of the pulse. He discusses under separate headings the following signs, some of which are new:

1. Considerable extension of the lateral boundaries of the total area of dullness. Careful percussion will guard against the mistake of narrowing the outline of the sac on account of the superficial resonance of the borders of the lung, which overlap the sac instead of coinciding with its lateral boundaries.

2. Great extension of absolute dullness; the sternum absolutely dull. This sign is not absolutely diagnostic, because it may be due to a number of conditions that will separate the two upper lobes of the lungs, such as a much enlarged heart, aneurysm, mediastinal tumors, etc.

3. The depression of the liver. In no other condition except in pneumothorax and in thoracic sarcoma is the hepatic depression so marked, at least in the middle line, as in large effusions into the pericardium. The hepatic percussion note may begin at the level of the tip of the xiphoid instead of at the infrasternal notch.

4. Dullness in the right fifth intercartilaginous space (ROTCH'S[2] sign). As a result of pericardial effusion within the right corner of the sac, the usually resonant area in question may become dull on percussion. EWART regards this sign as possibly present in certain cases of enormous dilatation of the right auricle from tricuspid stenosis, and hence not sufficient to supply the diagnostic verdict.

5. The diagnosis between pericardial effusion and cardiac dilatation. The lower angle of the pericardial dullness projects to the right. Normally the right auricular border is convex, it retires downward and inward toward the xiphoid. The outline of an effusion of fluid spreads out at the base; its lowermost angle projects outward. "From a surgical standpoint the practical importance of this sign, which seems to be the only one establishing a diagnosis between pericardial and cardiac dilatation, lies in the fact that aspiration of a dilated right auricle has been repeatedly recorded." A faithful mapping out of the right border of dullness is necessary.

6. The lower left angle of dullness, the relation of the apex beat to this angle. In cardiac enlargement or displacement the apex beats at the extreme left limit of the dullness and at its lowest level. Not so in pericardial effusion. The apex will beat somewhat inside and above the boundaries of dullness.

7. The first rib sign. In all cases of considerable pericardial effusion it was possible to feel the upper edge of the first rib; this means a rising up of the clavicle. This condition also occurs in some cases of dilatation of the heart. It can be easily studied without disturbing the patient.

8. The posterior pericardial patch of dullness. Whenever fluid accumulates in the pericardium the resonance at the left posterior base is modified in a most definite manner. A patch of marked dullness is found at the left inner base, extending from the spine for varying distances outward. When all the signs in front support the diagnosis of effusion, the presence of this posterior patch of dullness furnishes a complete and crucial evidence of fluid.

9. Tubular breathing below the right mamma. This sign is not constant, but should be looked for in severe cases.

[1] British Medical Journal, March 21, 1896.

[2] Boston Medical and Surgical Journal, 1878, Vol. xcix, p. 427.

10. The posterior patch of tubular breathing and egophony. "Immediately below or slightly to the left of the tip of the left scapula a patch of about two inches in diameter presents well-marked tubular breathing and egophony." This is confirmatory of other signs. It is generally present.

11. The secondary pleural effusions. The occurrence of pleural effusions belong to the latter stages of pericardial effusion, and their diagnostic value is therefore diminished.

12. The large and slapping pulse of pericardial effusions. The peculiarity of the pulse is its great size and velocity of impact, and the sudden collapse of the wave.

It will be seen that EWART has supplied available signs that are novel and which, in conjunction with others commonly described, may facilitate the diagnosis. He cautions against the expectation of finding the classical account of the disease directly and wholly applicable to individual cases. Irregular cases of pericarditis are common and of special importance to the surgeon.

OYSTER SHUCKER'S KERATITIS.

DR. ROBERT L. RANDOLPH has a long article in the *Johns Hopkins Hospital Bulletin* on the above named affection. It is a traumatic affection due to an injury from a particle of an oyster shell, and is chiefly remarkable for the rapidity with which infiltration appears at the seat of the wound, in marked contrast to the history of wounds by other kinds of foreign bodies of the same size and in the same location.

A small particle of the oyster shell is violently chipped off by the hammer that is used in the shucking process, and it flies into the eye. The particle is generally too small and too light to penetrate to any distance into the cornea. Large pieces, however, are sometimes detached and are driven through the entire thickness of the cornea, and when such a thing happens loss of the eye usually results. This occurrence is happily rare. Unlike other foreign bodies that lodge in the cornea, the particle of shell can seldom be detected. This is probably due to the fact that in the rapid infiltration that takes place the particle of shell is thrown off.

The use of the hammer to break off the edge of the shell before introducing the knife blade constitutes the chief element of danger in oyster shucking as practiced in Maryland. In other sections, as for instance, in the far South and down East, the shucker dispenses with the hammer and sticks in the point of the knife at once in order to pry open the shell. This no doubt explains why the disease is seldom seen in the portions of country just mentioned.

DR. RANDOLPH'S study of the disease involved a careful bateriologic investigation yielding the following conclusions:

1. Oyster shucker's keratitis may be defined as a traumatic keratitis where the injury is produced by a particle of the oyster shell.

2. The disease is chiefly remarkable for the rapidity with which the cornea undergoes necrosis at the site of the injury, this area of necrosis being usually very small, owing no doubt to the small size of the foreign body. Small foreign bodies of copper, steel and sand usually produce no appreciable keratitis; and even when they lodge in the cornea, commonly require several days to cause a noticeable inflammation. On the other hand, the oyster shucker presents a marked infiltration of the cornea at the point of injury within twenty-four hours after the accident.

3. This decided reaction on the part of the cornea makes the injury a peculiarly dangerous one when a large area is wounded, or when entrance has been made into the anterior chamber, such conditions in my experience being invariably followed by loss of the eye through panophthalmitis. How often do we see the cornea injured in the same degree by other kinds of foreign bodies and still the vision not entirely destroyed?

4. Bacteriologic investigations failed to discover any specific organism, nor did any of the organisms obtained from cases of oyster shucker's keratitis manifest any pathogenic properties when introduced into the corneæ of rabbits, with the exception of the pyogenic cocci. It is not likely then that the disease is of parasitic origin.

5. The carbonate of lime, of which the oyster shell is almost entirely composed, was found to possess qualities irritating enough to call forth a keratitis when introduced into the cornea of a rabbit, and it is more than probable that several other chemic ingredients of the shell would be more or less irritating to the cornea.

6. It is certain that bacteria always play a part in traumatic keratitis, but it is evident that in this variety of traumatic keratitis the cornea is rendered especially susceptible to the effects of microörganisms, by the irritating chemic ingredients of the oyster shell, notably the carbonate of lime.

Baltimore is the greatest oyster market in this country; there are at least six thousand shuckers in Maryland, and most of these are found in the shucking houses of Baltimore. In many of the northern cities, as for instance in Portland, Boston and New York, oysters are received in great quantities that are shucked in Baltimore, so that oyster shucking in those cities evidently does not exist as a trade to the extent that it does in Baltimore. The magnitude, then, of the oyster industry in that city may be said to account for the frequency of oyster shucker's keratitis.

REPORT OF COMMISSIONER OF EDUCATION.

The Report of the Bureau of Education, just issued, contains a valuable report on medical education that has already been editorially summarized in this journal. It is, however, so suggestive in some of its facts and details, that one is fully justified in referring to it again.

The details given of the requirements for entering on the practice of medicine in the different States are perhaps the most suggestive of all. The report truthfully says that the advance in this respect is the greatest that has been made in the history of medicine in this country. In eighteen States, it says (the number now is twenty or more), a mere diploma is no

qualification, but the candidate must pass a satisfactory examination as to his fitness, and there is now hardly a State or Territory where some sort of medical practice act is not in force. Imperfect and unsatisfactory as many of these yet are, they are indications of progress and a promise of better things. It is to the credit of the State of Illinois that much of this progress is due to the work of her State Board of Health while under the leading influence of the late DR. JOHN H. RAUCH, and it is to be hoped that it will not be long before she will again take front rank in the reform of which she was, in a sense, the pioneer.

An aspect of these legal enactments that, while apparent enough, may not have been fully considered by the profession as a whole, is the influence they have exerted and will exert still more in the future on the institutions for medical education in this country. At the date of the report (1893) there were 132 medical schools in the United States, and this number has undergone a considerable addition since that time. We are yet in the period or stage of growth in this respect, probably at its acme, and the reaction, it is possible, may not be very far ahead. This practice of publishing the results of examinations for admission to practice with the figures or percentages of failures by graduates of the different colleges can not fail to have a certain influence in some ways, though the statistics may be occasionally somewhat deceptive and require qualifying allowances. The requirements of a greater number of years of study and attendance will probably tend to extinguish in time some of the weaker and more poorly equipped institutions, as students will hardly be likely to wish to spend four years in colleges with what PROFESSOR WELCH calls a "pathetically meagre outfit," and one that can scarcely afford them the means of fitting themselves to pass any really practical examination. The additional requirement of an ante-matriculation examination which appears to be now coming in vogue, and which, like the others, is likely to become generalized throughout the country, seems also unfavorable to low-standard medical colleges. Whether these will continue to exist, supplying rural practitioners, while the higher grade institutions meet the wants of the urban practice, as MR. ERSKINE MILLER appears to infer, is more than doubtful, unless we assume, without any reasonable grounds, that the reform movement is to stop short of the point it has already reached in some parts of the country. There is, moreover, no class of medical men who need to be better fitted for their work than the country practitioners, and they often show that they are able to meet the requirements. With increasing age of the community, the conditions will approximate to those of other long-settled countries, and a high standard will be exacted as well in the country as in the city. The degree of prior education, within certain limits, has, however, only a partial bearing on the qualifications for practice, and it may be that some schools will revert to the old practice of giving the M.B., or the licentiate degree instead of the at present universal Doctor of Medicine, according as the candidate has had a collegiate or university education or its equivalent, or not. It is certainly one of the possibilities of the present tendency of change in the matter of medical education.

There is, however, one tendency in the medical legislation of the day that is possibly not altogether to be commended; that is the tendency to make the medical practice acts too rigid and inflexible so that instead of only fulfilling their legitimate function of ruling out incompetents and quacks, they may exclude from practice within their territory even some of the highest qualified members of the profession. A law that makes attendance on three or four courses of lectures of a prescribed length, within as many consecutive or separate years prior to graduation, an absolutely essential condition before a candidate is even admitted to examination, will make it impossible for a physician to qualify who had received his degree in the bad old days (not so very remote) when inability to pass for a diploma after two courses was considered a sign of deficient intellect, and would put an actual premium on the dullards of those times. A man who can not meet these requirements may have been a student and investigator for all the intervening years since graduation and have made a national reputation that has caused him to be called to high professional positions for which he is disqualified by the provisions of the law. The demand for such provisions or for the expurgation from the law of clauses intended to meet such cases as are mentioned above is not, to say the least, wise or discriminating, or in accordance with the best interests and traditions of an honorable and learned profession. There is no danger of overcrowding the ranks if the qualifications are made sufficiently high, and these can be determined in any case without the universal application of rules that, however good they may be in general and in intention, are in exceptional cases abused. The exceptions taken by a metropolitan medical journal to the clause in the New York act which was evidently intended to meet such cases, are therefore not so much in the line of progress and virtue as their writer seems to think. Our medical legislation should be guided and inspired by a liberal scientific professional spirit and good Anglo-Saxon common sense, and while its enactments should be efficient and comprehensive they should also be in all things reasonable. We need no Chinese standards here.

VISUAL PROBLEMS IN MOUNTAIN CLIMBING.

The African explorer HENRY M. STANLEY, in *Science*, comments upon the experience of BONVALOT

and other mountain climbers in respect of the perception of distance:

"I do not know that the attention of psychologists has been sufficiently called to the experience of mountain climbers as bearing on the problem of the perception of distance. Both SIR MARTIN CONWAY in his recent book, 'The Alps from End to End,' and M. BONVALOT, in his book, 'Across Thibet,' have some suggestive remarks of the same general tenor on this subject, but I will quote only those of M. BONVALOT, as they seem on the whole the most pertinent. Speaking of the highlands of Thibet, he says:

"'It is difficult to imagine how hard it is to find one's way among these highlands, where a man loses all sense of perspective, his eye wandering over immense spaces without seeing, at given distances either trees, houses, human beings, animals or edifices, the height of which is known to him. It is by the incessant and unconscious comparison of such objects as these that he has learned to form an idea of distance. Here in the desert we have in a few weeks lost this sense of distance which we had gained by the experience of our lifetime. All that one sees is so alike; one hill is like another; according to the time of day a frozen pool either sparkles in the sun or disappears, so that one does not know whether it is large or small; a little bird fluttering its wings upon a clod of earth looks like a wild animal which has been lying down and is getting up; a crow flying away with its prey in the morning mist seems to be a gigantic condor carrying off a lamb in its claws, while at sunset this same crow, cleaning itself on the summit of a rock, looks the size of a yak or a bear.'

"It is plain from this experience that M. BONVALOT happened upon a new spatial world of size and distance, which he had to learn by a method of local visual signs, just as in infancy he learned the space world of the nursery room. It would be interesting to inquire of such travelers the exact nature of the signs they used in constructing the new space world."

THE UNWELCOME "EX."

We observe with sincere regret that a few of our exchanges are regularly printing items from the JOURNAL, and simply crediting them to "EX." Under our copyright and the order of the Trustees, we will be obliged to bring to legal notice those who continue these annoyances. The Trustees have given free and full permission to medical journals to republish any item that appears in the ASSOCIATION JOURNAL, but it is intended as a matter of common courtesy that due credit shall be given, and the general permission contains a proviso to that effect.

THE MEDICAL COLLEGE ASSOCIATION will meet on Monday, May 4, at 4 P.M. Gentlemen going by the JOURNAL Special will arrive in Atlanta in ample time.

CORRESPONDENCE.

"She has Suffered Many Things." Another Case.

NEW YORK, April 2, 1896.

To the Editor:—By request I report a case to go along with that of Dr. Cory's reported case, Vol. xxvi, p. 587 of our JOURNAL.

Some ten years ago a middle-aged widow presented herself for treatment, and the examinations disclosed the following:

1. Anteflexion and hyperesthesia of the uterus.
2. Asthma, shown by dyspnea.
3. Bright's disease of the kidneys, shown by albumin, casts and fatty epithelia.
4. Fibroid tumor attached to the fundus of uterus, globar, pedunculated, about three inches and a half in diameter.
5. Pleuritis, shown by pain and friction sounds, about lateral third of chest.
6. Tuberculosis of lung, shown by impaired resonance on percussion, crackling respiration, elastic and inelastic lung fibers in sputum and the morphology of tuberculous blood.

This case was treated on the Salisbury plan. 4, disappeared in two months; 1, was hard to cure; 5, speedily disappeared; 3, also; 2, occasionally reappears; 6, disappeared and has reappeared, but now is in abeyance.

This case shows what perseverance will do in most unfavorable circumstances, where the principle is adopted of stopping causes, sustaining nature, oiling the machine with medicines, saving and conferring vital force and letting nature do the cure, as she always will if she has a chance.

Respectfully yours, EPHRAIM CUTTER, M.D.

Transactions Pan-American Medical Congress.

HARRISBURG, PA., April 5, 1896.

To the Editor:—Will you kindly inform me through the JOURNAL, whether members of the Pan-American Medical Congress who paid their $10 fees are entitled to the Transactions of the meeting? If so, are they published yet, or if not, when and where can we obtain them? I have written to Dr. Reed, the Secretary, twice, but can not get an answer from him. If I am entitled to a copy, and they are published, I would like very much to have my copy.

Yours truly, J. WALTER PARK, M.D.

ANSWER: Write to Professor Wm. Pepper, Philadelphia.

A Wise Suggestion.

PHILADELPHIA, April 6, 1896.

To the Editor:—In view of the vital importance of the subject others of your readers like myself would doubtless like very much to have from Dr. Halderman himself the details of the case of "Death from Antitoxin," reported by Dr. James L. Taylor in the correspondence of your issue of April 4.

Respectfully, JAMES TYSON.

"Our Journal."

FARMLAND, IND., March 10, 1896.

To the Editor:—Like the "general practitioner" of medicine in a backwoods district, I presume the editor of a medical journal at his desk, is not burdened with compliments of his success, but I wish to say to you that I appreciate the ability with which "our JOURNAL" is conducted, and the advanced views and literary skill of its editorials.

Very respectfully, LEWIS N. DAVIS, M.D.

NEW YORK, March 24, 1896.

. . . By the way, the issue of March 21, which I have just received, is the best for a long time. The topography is beautiful, the make-up admirable, the cuts clean, the contents interesting. Well done, thou g. and f. s.

Yours truly, A. L. G.

BOOK NOTICES.

Handbook for the Bio-Chemical Laboratory, including methods of preparation and numerous tests arranged alphabetically. By JOHN A. MANDEL. 12mo. Cl. $1.50. New York: John Wiley and Sons. London: Chapman and Hall, Limited. 1896.

We can not better set forth the aims and purposes of this laboratory guide than the author has done in his preface:

"An attempt has been made to give concise directions for preparing the most important substances that enter into the composition of the fluids and tissues of the animal body. The methods herein presented are compiled from the most recent and important works on physiological chemistry; and in certain instances two or three procedures are given for obtaining the same result. The two hundred or more tests are arranged in alphabetical order; and the name of the scientist who suggested the test, or the name under which it is ordinarily known, is given in each case."

The work has been carefully and conscientiously done and the book will be found very useful by those engaging in laboratory work.

Uric Acid as a Factor in the Causation of Disease, a contribution to the pathology of high arterial tension, headache, epilepsy, mental depression, paroxysmal hemoglobinuria and anemia, Bright's disease, diabetes, gout, rheumatism, etc. By ALEXANDER HAIG, M.A., M.D. Oxon., F.R.C.P. Third edition, with fifty-four illustrations. Philadelphia: P. Blakiston, Son and Co. 1896. Pp. 600, 8vo. Cl. Price $3.

This book which has now reached its third edition contains a vast amount of information upon the physiology of the production and elimination of uric acid and urea, and the pathologic changes caused by the retention of these excrementitious substances. The relations between certain forms of headache, mental depression, Raynaud's disease, rheumatism and uric acid are so clearly set forth with mathematical accuracy.

The author was himself a sufferer from the gouty diathesis, and has learned to control it practically by a suitable vegetarian and non-alcoholic dietary.

An Inquiry into the Difficulties Encountered in the Reduction of Dislocations of the Hip. By OSCAR H. ALLIS, M.D. The Samuel D. Gross Prize Essay. 8vo. Cl., pp. 167. Philadelphia: 1896.

In this excellent monograph, the author has apparently thrown light upon some details of the mechanism of hip joint dislocation as set forth by Reid, Gunn and Bigelow. The early work of Reid showed the method of reduction by manipulation and Gunn left very little for Bigelow by his prior demonstration that the real obstacle to reduction in most cases is the "untorn portion of the capsular ligament," the very same that Bigelow subsequently named the Y ligament and with which readers of Gray were familiar under the name of the ilio-femoral ligament. It is a pity that Dr. Allis should have failed to give Gunn the priority in this matter which is clearly his due. Dr. Allis has, however, added a valuable work to the literature of the subject, and we are glad to see that in those cases of dislocation that can not with ordinary effort be reduced by manipulation, he boldly recommends open incision. With the ordinary aseptic technique in vogue there need be little danger, and as the Roentgen ray may not always be handy, the careful incision may clear up the matter by perfecting the diagnosis.

Don'ts for Consumptives, or the Scientific Management of Pulmonary Tuberculosis. By CHARLES WILSON INGRAHAM, M.D., Binghamton, N. Y., February, 1896. 8vo. Cl., pp. 218.

This book is one that should be placed in the hands of every walking patient suffering from pulmonary tuberculosis, for it shows the pulmonary invalid how he may make and maintain a modern sanatorium of his home, and how recovery may be hastened in many cases. The exact relation of the title to the context of the book may well be questioned for it not only contains an account of what a consumptive should not do but what he should do.

The suggestions are recognized as pertinent and sensible and if carried out by all of the class for whom intended, would greatly diminish the scourge.

ASSOCIATION NEWS.

Section on Neurology and Medical Jurisprudence.

HARTFORD, CONN., April 4, 1896.

To the Editor:—The Section of Neurology has arranged for a paper with lantern demonstrations of the medico-legal relations of the X rays. It has been intimated that other similar papers are in course of preparation to be read before other sections. If this is so we shall be very happy to arrange for a combination of these papers at one place and time. If any sectional officers will write me, such arrangement can be made before the program is printed. Or if any one expecting to read a papar on this subject will write me, "a symposium" can be arranged to our mutual benefit. Signed,

T. D. CROTHERS, Chairman of Section.

Rush Monument Committee.

BALTIMORE, March 31, 1896.

The members and delegates of the AMERICAN MEDICAL ASSOCIATION who were constituted members of the Rush Monument Committee at the last session of the ASSOCIATION in Baltimore, are earnestly requested to report to the undersigned the names of contributors and the amounts received from them, not later than Monday, April 20, 1896, in order that the results of the year's work of the Committee may appear in the annual report to be presented at Atlanta on the sixth of May next.

The following Subscriptions to the Rush Monument Fund have been received:

Jan.	6, Dr. Timothy H. Bishop, New Haven, Conn.	$10.00
"	6, Dr. Benj. F. Kittrell, Black Hawk, Miss.	1.00
"	20, Dr. C. S. Laughlin, Paris, Ill.	1.00
"	20, Dr. W. A. Buchanan, Paris, Ill.	1.00
"	20, Dr. W. H. Ten Broeck, Paris, Ill	1.00
"	20, Dr. Z. T. Baum, Paris, Ill.	1.00
"	20, Dr. L. J. Weinstein, Terre Haute, Ind	1.00
"	20, Dr. J. P. Worrell, Terre Haute, Ind.	1.00
"	20, Dr. W. C. Eicheiberger, Terre Haute, Ind.	1.00
"	20, Dr. S. J. Young, Terre Haute, Ind	1.00
"	20, Dr. T. A. Mason, Terre Haute, Ind.	1.00
"	20, Dr. B. F. Swafford, Terre Haute, Ind.	1.00
"	20, Dr. F. W. Shaley, Terre Haute, Ind	1.00
"	20, Dr. Walker Shell, Terre Haute, Ind	.50
"	20, Dr. J. D. Mandeville, Philo, Ill.	1.00
"	20, Dr. J. L. Firebaugh, Robinson, Ill.	1.00
"	20, Dr. T. N. Rafferty, Robinson, Ill.	1.00
"	20, Dr. C. Barlow, Robinson, Ill	.50
"	20, Dr. O. Mitchell, Marshall, Ill.	1.00
"	20, Dr. W. H. Haslet, Dalton, Ill	1.00
"	20, Dr. Mark Rowe, Redman, Ill.	1.00
"	20, Dr. J. A. Baughman, Neoga, Ill.	1.00
"	20, Dr. Milton D. Norris, Catonsville, Md	1.00
Feb.	11, Dr. E. D. McDaniel, Mobile, Ala	5.00
"	11, Dr. C. H. Franklin, Union Springs, Ala	5.00
"	11, Drs. Davis & Davis, Birmingham, Ala.	5.00
"	11, Dr. R. M. Cunningham, Pratt City, Ala	5.00
"	11, Dr. E. H. Scholl, Birmingham, Ala.	5.00
"	11, Dr. W. H. Johnson, Birmingham, Ala	5.00
"	11, Dr. C. A. Thigpen, Montgomery, Ala.	5.00
"	11, Dr. J. B. Gaston, Montgomery, Ala	5.00
"	11, Dr. J. C. LeGrand, Anniston, Ala.	5.00
"	11, Dr. J. T. Searcy, Tuscaloosa, Ala.	2.00
"	11, Dr. J. C. Hendrick, Greenville, Ala	2.00
"	11, Dr. S. C. Henderson, Brewton, Ala	2.00
"	11, Dr. J. A. Wilkinson, Flomaton, Ala	2.00
"	11, Dr. Shirley Bragg, Lowndesboro, Ala	2.00
"	11, Dr. Jno. A. Pritchett, Haynesville, Ala	2.00
"	11, Dr. W. D. Gaines, Milltown, Ala	2.00
"	11, Dr. J. J. Harlan, Hackneysville, Ala	2.00
"	11, Dr. J. A. Goggans, Alexander City, Ala	2.00
"	11, Dr. L. W. Johnston, Tuskegee, Ala.	2.00
"	11, Dr. S. A. Holt, Eufauta, Ala	2.00
"	11, Dr. D. E. Cason, Asnville, Ala	2.00
"	11, Dr. R. F. Harper, Ozark, Ala	2.00
"	11, Dr. W. B. Asberry, Anniston, Ala	2.00
"	11, Dr. W. B. Cameron, Sumterville, Ala	2.00
"	11, Dr. R. L. Sutton, Orrville, Ala	2.00
"	11, Dr. S. C. Carson, Bessemer, Ala	2.00
"	11, Dr. G. T. McWhorter, Riverton, Ala	2.00
"	11, Dr. M. W. Murray, New Decatur, Ala	2.00
"	11, Dr. Jerome Cochran, Montgomery, Ala	17.00
"	15, Iowa and Illinois Central District Medical Society.	25.00
Mar.	14, Interest on Mortgage note.	25.00
	Previously reported	3,548.39
	Total	$3,729.39

GEORGE H. ROHE,
Secretary and Treasurer, Rush Monument Committee.

Section on Obstetrics and Diseases of Women.

Brief address by the Chairman JOS. TABOR JOHNSON, M.D.

1. A Note on Cervical Stenosis as a Factor in Pelvic and Uterine Disease, HENRY P. NEWMAN, Chicago, Ill.

2. Ventro-fixation of the Uterus. How to Remove Pus Tubes without Rupture, I. S. STONE, Washington, D. C.

3. Extra-uterine Pregnancy Viewed from a Clinical Standpoint, W. G. MACDONALD, Albany, N. Y.

4. Symptoms, Diagnosis and time for Operation in Ruptured Tubal Pregnancy, JOSEPH PRICE, Philadelphia, Pa.

5. Stomatitis Materna, J. SCHNECK, Mt. Carmel, Ill.

6. Gauze Drainage in Pelvic and Abdominal Surgery, MILO B. WARD, Topeka, Kan.

7. Degenerative Changes that occur in Uterine Fibro-myomatous Growths, AUGTSTUS P. CLARKE, Cambridge, Mass.

8. Drainage in Abdominal and Pelvic Surgery, FRANKLIN H. MARTIN, Chicago, Ill.

9. Some Suggestions in the Prophylaxis and Management of Puerperal Eclampsia, H. D. THOMASON, Albion, Mich.

10. Ovarian Grafting instead of Hysterectomy when Uterine Annexa are Removed, R. T. MORRIS, New York, N. Y.

11. Puerperal Sepsis, its Prophylaxis and Treatment, E. E. MONTGOMERY, Philadelphia, Pa.

12. Intestinal Obstruction following Laparotomy, H. O. MARCY, Boston, Mass.

13. Hysterectomy as an Accompaniment to Bilateral Removal of the Appendages, REUBEN PETERSON, Grand Rapids, Mich.

14. Improved Method of Trachelorraphy, AUGUSTIN H. GOELET, New York City.

15. Puerperal Infection, its Pathology, Prevention and Treatment, R. R. KIME, Atlanta, Ga. Discussion to be opened by DR. J. B. S. HOLMES of Atlanta, Ga.

16. Uterine Fibroids When and How to Operate, ALBERT H. TUTTLE, Cambridge, Mass.

17. Gonorrhea in the Puerperium, ALBERT H. BURR, Chicago.

18. Discussion on Vaginal *versus* Abdominal Section for small Tumors and Pus in the Pelvis. To be opened on the Vaginal side by R. S. Sutton of Pittsburg, Pa.; on the Abdominal side by W. E. B. Davis of Birmingham, Ala. Discussion continued by Drs. Joseph Price, J. M. Baldy, F. Henrotin, J. W. Bovée, H. O. Marcy, W. H. Wathen, L. S. McMurtry, R. O. Douglas, N. O. Hardin.

Section on Laryngology and Otology.

1. Chairman's Address, G. V. WOOLEN, Indianapolis, Ind.

2. Adenoids, PRICE BROWN, Toronto, Canada.

3. Some remarks on Adenoid Vegetations in the Vault of the Pharynx, Based upon 100 Operations, G. HUDSON MACKUEN, Philadelphia, Pa.

Discussion to be opened by ALEXANDER MACCOY. Philadelphia, Pa.

4. Extra-dural Abscess from Mastoid Empyema (Illustrated, Stereopticon), B. ALEXANDER RANDALL, Philadelphia, Pa.

5. Primary Inflammation and Abscess of the Mastoid, report of case, DUNBAR ROY, Atlanta, Ga.

6. Contribution to Cerebral Disease Following Middle Ear Suppuration, M. S. LEDERMAN, New York, N. Y.

7. The Operation of Mastoid Antrotomy for the Cure of Obstinate O. M. P. C., with description and presentation of the Author's Antrotome, H. A. ALDERTON, Brooklyn, N. Y.

Discussion to be opened by ARTHUR G. HOBBS, Atlanta, Ga.

8. Extirpation of the Larynx, NORVAL J. PIERCE, Chicago, Ill.

9. Surgery of the Nasal Vestibule, with Report of Cases, ROBERT C. MYLES, New York, N. Y.

10. Electrolysis by a Current Controller for the Reduction of Spurs of the Nasal Septum. A Supplementary Report, W. E. CASSELBERRY, Chicago, Ill.

Discussion to be opened by W. H. DALY, Pittsburg, Pa.

11. Treatment of Chronic Non-Suppurative Otitis Media, S. MACCUEN SMITH, Philadelphia, Pa.

12. Some Considerations with regard to the Value of Intratympanic Operations in Deafness, F. H. SHASTID, Galesburg, Ill.

13. Iodin Applications in Eustachian Hypertrophy and Thickened Drumhead, A. J. IRWIN, Mansfield, Ohio.

14. Pneumo- and Phono-Massage Treatment for Deafness Resulting from Suppurative Disease of the Middle Ear, LOUIS J. LAUTENBACH, Philadelphia, Pa.

Discussion to be opened by E. L. SHURLY, Detroit, Mich.

15. Post Nasal Malignant Tumors, Necessity of Early Diagnosis and Treatment, JAMES H. SHORTER, Macon, Ga.

16. Chronic Abscess at the Base of the Tongue, C. W. RICHARDSON, Washington, D. C.

17. Stricture in the Upper Third of the Trachea successfully treated by Divulsion performed through the Larynx, JOHN O. ROE, Rochester, N. Y.

18. Uncommon Accidents following Operations on the Nose and Throat, MAX THORNER, Cincinnati, Ohio.

Discussion to be opened by E. F. INGALS, Chicago, Ill., and ROBERT C. MYLES, New York.

19. Nasal Hydrorrhea, D. BRADEN KYLE, Philadelphia, Pa.

20. Clinical Notes on Ortho- and Para-chloro-phenol, CONRAD BERENS, Philadelphia, Pa.

21. The Paquelin Cautery, Adapted for Nose and Throat Work, J. MOUNT-BLEYER, New York, N. Y.

22. Electro-cautery Amputation of the Uvula, HANAU W. LOEB, St. Louis, Mo.

Discussion to be opened by JOHN O. ROE, Rochester, N. Y., and JAMES H. SHORTER, Macon, Ga.

23. The Successful Treatment of so-called "Cold in the Head," J. E. SCHADLE, St. Paul, Minn.

24. Keloid Tumors of the External Ear, W. SHEPPEGRELL, New Orleans, La.

25. Treatment of Acute Inflammatory Process of the Labyrinth, J. F. FULTON, St. Paul, Minn.

Section on Cutaneous Medicine and Surgery.

1. Address of Chairman, DR. BULKLEY, New York, On Some of the Newer Remedies Used in Diseases of the Skin.

2. The Occurrence of Lupus in the Wife and Daughter of a Tubercular Subject, J. M. WINFIELD, Brooklyn, N. Y.

3. Excision and Skin Grafting for the Cure of Tubercular Disease of the Skin, M. B. HUTCHINS, Atlanta, Ga.

4. Electrolysis in the Treatment of Lupus Vulgaris, A. RAVOGLI, Cincinnati, Ohio.

5. A Special Form of Dermatitis Due to Crab Bites, T. C. GILCHRIST, Baltimore, Md.

6. Trichorexis Nodosa, G. T. ELLIOT, New York.

7. Leukokeratosis Buccalis and its Treatment, H. C. YARROW, Washington, D. C.

8. On the Treatment of Carbuncle Without the Knife or Caustics, W. E. SHAW, Cincinnati, Ohio.

9. Acetanilid in Skin Diseases, with Report of Cases, A. M. WILSON, Kansas City, Mo.

10. Report of a Case of Chancre of the Lip, E. F. BRUSH, Mt. Vernon, N. Y.

11. A Case of Syphilis Innocently Acquired in Childhood, HENRY A. PULSFORD, East Orange, N. J.

12. Typhoid Fever Complicating the Early Stages of Syphilis, W. D. HAINES, Cincinnati, Ohio.

13. Syphilis Successfully Treated by Hydriatics, ELMER LEE, Chicago.

14. Syphilitic Headaches, their Cure, MERRILL RICKETTS Cincinnati, Ohio.

15. A Fatal Case of Subcutaneous Gummata, WM. T. GOTTHEIL, New York.

16. Discussion on Syphilis and Marriage, participated in by P. S. CONNER, Cincinnati; EDWIN MARTIN, Philadelphia; J. FOSTER BUSH, Boston; A. RAVOGLI, Cincinnati, and others.

17. Rapid and Successful Treatment of Herpes Zoster, A. H. OHMANN-DUMESNIL, St. Louis, Mo.

18. Further Observations on Urticaria, T. C. GILCHRIST, Baltimore, Md.

19. Discussion on Chronic Ringworm of the Scalp, opened by L. DUNCAN BULKLEY, New York.

20. Institutional Treatment of Scalp Ringworm, CHARLES W. ALLEN, New York.

21. Experience with Ringworm of the Scalp in the New York Skin and Cancer Hospital, HENRY A. PULSFORD, East Orange, N. J.

22. Practical Notes on Ringworm of the Scalp, F. J. LEVISEUR, New York.

23. A Case of Trichophytic Onychomycosis, F. HOLMES BROWN, Grand Rapids, Mich.

24. Facial Baths and Massage in the Treatment of Acne, J. ABBOTT CANTRELL, Philadelphia.

Section on State Medicine.

The Section on State Medicine will meet in Room 15, Kimball House.

OFFICERS OF SECTION.

CHARLES H. SHEPARD, Brooklyn, Chairman.

ELMER LEE, Chicago, Secretary.

Executive Committee—L. H. MONTGOMERY, Chicago; G. W. STONER, Baltimore; C. A. LINDSLEY, New Haven.

TUESDAY, MAY 5.

1. The State Care of Physically Defective Classes, WM. E. WIRT, Cleveland, Ohio.

2. The Sanitary Control of Smallpox, S. L. TEPSON, Wheeling, Va.
3. Preventive Medicine in Apoplexy, EPHRAIM CUTTER, New York City.
4. Heredity as a Social Burden, A. W. WILMARTH, Norristown, Pa.
5. Hygiene versus Drugs, C. F. ULRICH, Wheeling, W. Va.
6. The Prevention of Smallpox, ELMER LEE, Chicago.
7. Drugs vs. Animal Viruses as Prophylactics, REGINALD B. LEACH, Paris, Texas.
8. A Plea for the Domestic Destruction of Garbage, N. E. WORDIN, Bridgeport, Conn.
9. The Welfare of the Community Demands that Marriage Should be Regulated, DANIEL R. BROWER, Chicago.
10. Age and Sex Incidence of Mortality in Michigan, from Diphtheria and Croup, During Twenty-five Years, from 1870 to 1894; a Statistical Study, CRESSY WILBUR, Lansing, Mich.
11. The Prophylaxis of Functional Nervous Diseases. JOHN PUNTON, Kansas City, Mo.
12. A New Treatment of Phthisis, H. W. MITCHELL, New York.
13. Pure Water, FRANK W. EPLEY, New Richmond, Wis.
14. The Evil Results of Overstudy in the Young, THORNTON PARKER, Groveland, Mass.
15. Treatment of Insanity, S. V. CLEVENGER, Chicago.
16. Prevention of Infectious Diseases, J. M. G. CARTER, Waukegan, Ill.
17. The Prophylaxis of Typhoid Fever, JOHN ELIOT WOODBRIDGE, Cleveland, Ohio.

WEDNESDAY, MAY 6.

18. Physicians as Pauperizing Agents; a Review of Some Neglected Points in State Medicine, DOUGLAS H. STEWART, New York. To be read by Dr. Manley.
19. The Turkish Bath, etc., FORBES WINSLOW, London, England.
20. The Therapeutic Action of the Turkish Bath, V. TAGELLSKI, London, England.
21. The Need of Public Baths, CHARLES H. SHEPARD, Brooklyn, N. Y.
22. The Prevention of War and the Promotion of Peace in Relation to State Medicine, EDWARD DAVIES MCDANIEL, Mobile, Ala.
23. Health Boards as Disturbers of the Peace, CHARLES MCINTIRE, Easton, Pa.
24. The Inadequacy of Public Hygiene as a Means of Preventing National Physical Decay, J. H. KELLOGG, Battle Creek, Mich.
25. The Physician's Duty to the General Public, J. W. COKENOWER, Des Moines, Iowa.
26. Health Departments of Large Cities and their Organization, JOHN B. HAMILTON, Chicago.
27. The Methods of Drainage Now Prevailing in Some of Our Eastern Seaboard Municipalities Tending to the Production and Dissemination of Disease, AUGUSTUS P. CLARK, Cambridge, Mass.
28. A Department or a Bureau of Health? Which? S. S. HERRICK, San Francisco.
29. Some Thoughts Relative to a National Department of Public Health, F. E. STEWART, Detroit, Mich.
30. Progress in State Medicine in Pennsylvania, E. O. BARLWELL, Emporium, Pa.
31. Should the State Provide Hospitals for the Treatment of Tubercular Patients? J. S. JENKINS, Tecumseh, Mich.
32. Serum Therapy in Some Diseases, G. T. VAUGHN, P. A. SURGEON, M.-H. S., Philadelphia.
33. Suicide: Three Cases, with Remarks, JOHN L. DAVIS, Cincinnati, Ohio.

THURSDAY, MAY 7.

34. State Prevention and Cure of Inebriety, O. EVARTS, College Hill, Ohio.
35. The Abuse of Alcoholic Drinks, its Relation to Public Health and its Prevention, W. BAYARD, St. Johns, New Brunswick.
36. Recent Studies Relating to the Toxic Effect of Alcohol Upon the Nerve Cells, W. H. RILEY, Battle Creek, Mich.
37. The Non-alcoholic Treatment of Consumption, O. G. PLACE, Boulder, Colo.
38. Hospital Management Without the Therapeutic Use of Alcohol, SARAH HACKETT STEVENSON, Chicago.
39. Twenty-one Years' Experience in the Non-alcoholic Treatment of Disease, J. H. KELLOGG, Battle Creek, Mich.
40. What Constitutes True Clinical Experience in Medical Practice and its Relations to the Public Health, N. S. DAVIS, Chicago.
41. The Evolution of Medical Opinion as to Alcohol and Other Narcotics, I. N. QUIMBY, Jersey City, N. J.
42. The Proposed Permanent Badge for the AMERICAN MEDICAL ASSOCIATION, R. FRENCH STONE, Indianapolis, Ind.
43. Tuberculosis, Infection from Food, CHARLES E. WINSLOW, Los Angeles, Cal.
44. Modern Respiratory Advantages, W. T. ENGLISH, Pittsburg, Pa.

Papers have also been promised by the following: T. D. Crothers, Hartford, Conn.; A. B. Judson, New York; C. H. Hughes, St. Louis, Mo.; G. F. Cook, Oxford, Ohio; G. E. Martin, Carthage, S. Dakota; Charles S. Sheldon, Madison, Wis.

Section on Dental and Oral Surgery.

1. Chairman's Address, R. R. ANDREWS, Cambridge, Mass.
2. A Few Causes of Failures in the Dental and Medical Professions, B. B. SMITH, Pensacola, Fla.
3. Modern Methods of Treating the Antrum of Highmore, W. X. SUDDUTH, Chicago, Ill.
4. Further Investigations Upon the Antrum, M. H. FLETCHER, Cincinnati, Ohio.
5. Pyorrhea Alveolaris, EUGENE S. TALBOT, Chicago.
6. Articulation, W. E. WALKER, Pass Christian, Miss.
7. Cataphoresis, H. W. GILLETT, Newport, R. I.
8. The Technique and Pathology of the Peridental Membrane, VIDA A. LATHAM, Chicago, Ill.

SOCIETY NEWS.

Nebraska State Medical Society.—A meeting of this society will be held in the Federal Building, at Lincoln, Neb., on May 19, 20 and 21, beginning Tuesday afternoon, May 19.

The Chicago Medical Society at its annual meeting held April 6, elected the following officers; Harold N. Moyer, M. D., President; Fernand Henrotin, M.D., First Vice-President; Arthur D. Bevan, M.D., Second Vice-President; Junius C. Hoag, M. D., Secretary; Arthur R. Reynolds, M.D., Treasurer; Edmund J. Doering, M.D., Chairman of Publication Committee; D. W. Graham, M.D., Chairman Committee on Library. Delegates were elected to the AMERICAN MEDICAL ASSOCIATION. The annual address by the retiring President, Dr. L. L. McArthur, was an interesting one, on the technique of Surgical Operations on the Kidney. He advocated the transverse incision.

The Tennessee State Medical Society, as already announced in the JOURNAL, will meet in its Sixty-third annual session in Chattanooga, Tenn., April 14, and continue in session for three days. A rate of one and one-third fare for the round trip over all the railroads in the State will be given to those in attendance. The hotels will all give a reduction in rates of 25 per cent. The place of meeting has been secured, and is all that could be wished for. The local profession, or rather the Chattanooga Medical Society, will banquet those in attendance one evening during the meeting.

Iowa State Medical Society.—The forty-fifth annual meeting of the Iowa State Medical Society will be held in Des Moines April 15, 16 and 17, 1896. Delegates to the AMERICAN MEDICAL ASSOCIATION will be elected at this meeting. Railway rates of a fare and one-third have been granted. The route selected is the Chicago & Northwestern; train will leave Council Bluffs May 2, 5:25 P.M., and Des Moines 9 P.M., arriving in Chicago next morning at 7:45, and leave at noon on the JOURNAL special train via Big Four road, Queen & Crescent and Southern Railways, to Atlanta without change of cars, arriving Monday afternoon, May 4. As heretofore announced, the JOURNAL special train will leave Chicago 12 M., Sunday, May 3; Indianapolis, 6 P.M.; Cincinnati, 10 P.M., and arrive in Atlanta 3:10 P.M., Monday.

The Second International Congress of Gynecology and Obstetrics.—The second meeting of this Congress will be held in September, 1896, at Geneva, Switzerland, in the halls of the University. Dr. Betrix is the General Secretary for gynecology, Dr. Cordes for obstetrics, while Dr. Boucart is the General Treasurer for both.

In the Section for Gynecology the following is the official program: 1. Treatment of Pelvic Suppuration—Reporters: Dr. Bouilly, Paris; Dr. Kelly, Baltimore; Dr. Zweifel, Leipsic. 2. Surgical Treatment of Uterine Retro-deviations—Reporters: Dr. Kustner, Breslau; Dr. Pozzi, Paris; Dr. Polk, New York. 3. What Method of Closing the Abdomen Presents the Best Guarantee against Abscesses, Eventrations and Hernias?—Reporters: Dr. Granville-Bantock, London; Dr. La Torre, Rome.

In the Section for Obstetrics: 1. Relative Frequency and Most Common Forms of Pelvic Contractions in Different Races, Groups of Countries or Continents—Reporters: Dr. Fancourt Barnes, London; Dr. Dohrn, Königsberg; Dr. Fochier, Lyons; Dr. Kufferath, Brussels; Dr. Jentzer, Geneva; Dr. Lusk, New York; Dr. Rein, St. Petersburg; Dr. Pawlick, Prague; Dr. Pastalozza, Pavia; Dr. Traub, Leyden. 2. Treatment of Eclampsia—Reporters: Dr. Charles, Brussels; Dr. Charpentier, Paris; Dr. Halbertsma, Utrecht; Dr. Loehlein, Giessen; Dr. Mangiagalli, Milan; Dr. Parvin, Philadelphia; Dr. Smyly, Dublin.

"As indicated by the number and choice of reporters, the Committee, desirous of provoking upon certain questions, investigations and debates as general as possible, has endeavored to present the opinions of the principal schools for discussion, and it is hoped by the Committee that members of the profession engaged in this specialty will attend in large numbers and take part in its discussions or read original communications. Switzerland has always extended a cordial welcome to Congresses held in that country, and this may be taken as a guarantee that the reception which will be given will be worthy of its traditional hospitality. The Committee of Organization will make all preparations that members of the Congress and their families may be assisted in combining their journey to Geneva with other excursions in different parts of Switzerland. The regulations are briefly these: The founders and permanent or life members pay a single initiation fee of 300 francs, which absolves them from the payment of any future dues. Members for one session only pay a fee of 30 francs, upon the receipt of which they will receive a card of membership to the Congress, entitling them to all privileges during that session, as well as a copy of the Proceedings of the Transactions of the Congress. Those desirous of taking part in the discussions are requested to inform the Secretary before the fifth day of July, 1896, stating definitely the questions they desire to discuss."

Association of Military Surgeons of the United States.—Lieut.-Colonel Eustathius Chancellor, Medical Director N. G. Mo., Secretary of the Association has announced the program for the sixth annual meeting to be held in Philadelphia, Pa., May 12, 13 and 14, 1896. The indications promise a successful meeting. The presence of many distinguished representatives from the military services and of a large gubernatorial detail from nearly every State in the union has been assured. Headquarters will be established at the Hotel Walton, where the regular business of the sessions will begin at 3 P.M., of Tuesday, May 12. The morning session of Tuesday will be held at the Broad Street Theater at 10 o'clock where addresses will be made by Governor Hastings, Mayor Warwick, General Snowden, Dr. Da Costa, and Dr. Louis W. Read, President of the Association. In the evening there will be a reception at the Hotel Walton. On the morning and afternoon of Wednesday the Association will be the guest of the University of Pennsylvania, with luncheon at the Houston Club. On Wednesday and Thursday evenings receptions will be given by two of the prominent military organizations of Philadelphia; on Wednesday evening a special reception to the medical officers and ladies at the Hotel Walton by the Citizen's Committee; and on Thursday a noonday luncheon tendered by Mr. Wm. S. Saunders at the Art Club. A committee of ladies will look after the welfare of all ladies in attendance on the occasion. Members will wear undress uniform during the day; full uniform with side arms in the evening.

The following papers have been promised for the meeting: The Physiology of Bathing and Swimming, Surgeon H. G. Beyer, U. S. N.; The Emergency Ration, Captain C. E. Woodruff, Ass't Surgeon, U. S. A.; Experiments with Emergency Ration; Tetanus Resulting from Powder Burns, Captain L. A. La Garde, Ass't Surgeon, U. S. A.; The Effects of Cannon Firing and Explosion on the Ear, Dr. Samuel Sexton, New York City; Instruction of the Hospital Corps, U. S. Army, Colonel C. H. Alden, Ass't Surgeon-Gen'l, U. S. A.; The Better Type of Medical Officer, Lieut.-Col. A. A. Woodhull, Deputy Surgeon-Gen'l, U. S. A.; A New Bullet Forceps, Colonel N. Senn, Surgeon-Gen'l, Ill. N. G.; The Annual Encampment, and What it Teaches the Surgeon of the National Guard, Captain J. J. Erwin, Ass't Surgeon, O. N. G.; The Vitality of the Cholera Spirillum in its Relation to Certain Fruit Acids, Passed Ass't Surgeon T. C. Craig, U. S. N.; Is there a Necessity for Differences Between the Standards of Physical Efficiency in the Regular Army and the National Guard, Lieut.-Col. Chas. R. Greenleaf, Deputy Surgeon-Gen'l, U. S. A.; What is the Most Practicable Plan of Sanitary Organization for the United States Army? Major J. Van R. Hoff, Surgeon, U. S. A.; The Effects of the New Gun in Field Service, General J. D. Griffith, N. G. Mo.; Notes and Comments on the French Field Sanitary Service, and what we may Learn from it, Major Valery Havard, Surgeon, U. S. A.; Modern Methods of Sewage Disposal as Applicable to Military Posts, Major A. C. Girard, Surgeon, U. S. A.; Baths, Bathing and Swimming for Soldiers, Lieut. H. L. Chase, Ass't Surgeon, Mass. V. M.; The Illustrated Travois, Major W. C. Shannon, Surgeon, U. S. A.; Some Thoughts on Wheeled Vehicles for the Transport of Wounded, Major Geo. W. Adair, Surgeon, U. S. A.; What Standard of Visual Acuity should be Required of the Enlisted Men of Our Military Services? Capt. J. M. Banister, Ass't Surgeon, U. S. A.; Methods of Caring for Wounded in Field and Hospital of the Chinese and Japanese Armies, C. U. Gravatt, Surgeon, U. S. N.; Synopsis of a Report on the Medico-Military Arrangements of the Japanese Army in the Field, 1894 and 1895, made to the Director-General, British Army Medical Department, by Surgeon Col. W. Taylor, Army Medical Staff, presented by Colonel Dallas Bache, Ass't Surgeon-Gen'l, U. S. A.; Problems in Medical Administration, with Solutions; accompanied by Suggestions as to the Application of this Method to the Instruction of the Medical Officers of the National Guard, Presented by Colonel Dallas Bache, Ass't Surgeon Gen'l, U. S. A.; The Epidemiological Features of the Late Epidemics of Plague in China and Cholera in Japan, Passed Ass't Surgeon W. F. Arnold, U. S. N.; Recent Advances in Anthropology Applied to the Physical Examination of Recruits, Major P. F. Harvey, Surgeon U. S. A.; A General Consideration of Athletics; their Value in the Training of Soldiers, Lieut. W. A. Brooks, Jr., Ass't Surgeon, Mass. V. M.; Outlines of the Sanitary Organization of the Army of Denmark, Major John Van Rensselaer Hoff, Surgeon, U. S. A.; Coöperation in Public Sanitation, Surgeon J. C. Wise U. S. N.

The Therapeutic Effect of Anti-phthisin.—In November, 1895, the Parish Medical Society of New Orleans, La., appointed a commission for the investigation and a public test of antiphthisin, as to its value in tuberculosis, to be made in the Charity Hospital of New Orleans. The commission consisted of the following members: Dr. Edmond Souchon, President; Dr. A. J. Bloch, Secretary; Dr. J. D. Bloom, House Physician, Charity Hospital; Prof. John Elliott, Prof. R. Matas, Prof. F. W. Parham, Dr. F. Loeber, Dr. Charles Chassaignac, Dr. John H. Bemis, Dr. Joseph Holt, Dr. H. L. Lewis, Dr. P. E. Archinard, Dr. O. P. Pothier, Dr. McShane, Dr. C. J. Lanfried. The treatment of cases began November 27, and its final report was presented to the Parish Medical Society at its regular meeting, March 28, 1896. The report is voluminous, and will be published in full. The following are the conclusions in surgical cases:

"A consideration of the three improved cases would certainly lead us to believe that antiphthisin has decided value, and we should commend its careful tentative employment in such cases, in conjunction with general measures and the usual appropriate surgical operative treatment. The glandular case we consider especially encouraging. This case would seem to have required a most serious operation for the removal of the gland, with great uncertainty of ultimate benefit. The improvement under antiphthisin treatment would alone justify us in ascertaining that we have in this remedy a most valuable aid in the management of such cases. We beg to call attention in this connection to the case of Dr. Ambler of Ohio, reported recently in the New York *Medical Record*, as confirmatory evidence of the value of antiphthisin in glandular tuberculosis. The hypodermic employment of the remedy

would seem to be especially advantageous if administered under careful aseptic precautions."

Conclusions in medical cases: 1. In nearly every case the area of lung involved decreased, if it did not clear up entirely. 2. Auscultation bore out the results of percussion, vesicular respiration replacing, in a greater or less degree, morbid breath-sounds. In those cases which were classed as cured, the departure from health being only such as is due to the results of every continued pneumonic process. 3. Secretion was diminished even in the cases marked only improved, and entirely absent in others. 4. Bacteriologic reports in most of the cases bore out the results obtained in physical and other examinations. 5. The general condition of the patients improved in the large majority of cases, even in those whose physical examination did not show any great improvement. 6. The use of the remedy was not attended with any danger to the patient. 7. Finally, antiphthisin does seem to have *curative*, and not simply palliative qualities.

The Wayne County (Mich.) Medical Society held its weekly meeting March 26, at which meeting Dr. Wm. H. Humiston, of Cleveland, Ohio, read a paper on "Some Practical Points in Gynecology." The Doctor eulogized the position and work of the Wayne County Medical Society, and showed where the Society could be of material aid in helping to pass a law by which we as a State would be rid of the quacks, and cited the Cleveland Medical Society as an example. He said he hoped to see our Society of 150 members reach a membership of 300 in another year. He also alluded to the "Detroit Notes" appearing in the AMERICAN MEDICAL ASSOCIATION JOURNAL, which he said was very commendable, as it kept the profession of our city in touch with the profession outside; that it fostered a professional feeling and was a factor in building up the JOURNAL and the AMERICAN MEDICAL ASSOCIATION. The Doctor explained that his paper was for the general practitioner and not for the specialist. He started out with the mode of examination, and what one could learn by manual manipulation, decried the sound as a means by which the uterus could be placed or its size determined, and stated that there were none of his senior class but what could determine from digital examination the position and size of the uterus, and said that there was no better way of replacing a retroflexed uterus than by the knee elbow position. The sound and applicator were dangerous instruments to use within and about the uterus, as he had known a number of instances where inflammation had been started, where old troubles had been made active, and the patient placed in quite a precarious condition. The Doctor also spoke of the preparation of patients for operations, especially for celiotomy. He found a considerable number of patients who passed a diminished quantity of urine with a high specific gravity, and said that he made it a routine practice to give all patients before operating a glass of hot water before each meal and at bedtime; that by this means his patients after operation did not suffer from thirst as they were wont to do before resorting to this plan. As to the anesthetic, he left the choice to his anesthetizer.

Dr. C. Henri Leonard, in opening the discussion, said that he was glad to meet an operative gynecologist who was so conservative. The Doctor took issue with the essayist on the danger that might be brought about by the use of the sound and applicator, and said that he could readily see that in the hands of the inexperienced it might and could do damage, but where a reasonable amount of dexterity in manipulations was used by competent men, he did not see the possibility of any damage being done, especially where instruments were kept clean. He himself used lots of soap and water on his hands and instruments, and no bichlorid nor carbolic acid, and had yet to have his first death from any manipulations or operations that he had instituted, and this record in the practice of this specialty for nearly twenty years is not only gratifying, but convincing that his treatments are on the right lines.

Dr. J. H. Carstens said that he was practicing and advocating the same as the writer of the paper, as set down in his essay; that he believed that we could do a great deal by reaching abscesses through the vault of the vagina, evacuating them and draining them, and then when need be, after the acute trouble was over, to resort to radical means to extirpate the diseased parts. The Doctor also said that he had time and time again opened the abdominal cavity, extirpated one ovary, and found the other partially diseased; that he could excise portions of it and save a part; that he had had several cases where he resorted to these procedures and had had the satisfaction of having his patients menstruate at regular periods and without pain.

Dr. W. H. Longyear agreed with the writer of the paper, and could see where the suggestion of giving abundance of hot water several days before operations upon the pelvic and abdominal organs, would prevent them from having the extreme thirst that we so often have our patients troubled with after these operations. He differed with Dr. Leonard in the conservative treatment of inflammatory diseases of the pelvis, and said that we ought to resort to surgery in the earlier stages and more often than we sometimes do.

Drs. James Sampson, G. R. Cruikshank, J. C. Asbaugh, of Windsor, Ontario, and Drs. G. A. Kirker, K. Gunsolus, O. P. Eaton and W. R. Brand, of Detroit, spoke upon the merits of the paper.

Dr. Wm. H. Humiston exhibited two ovaries from a patient whom he had operated on, which showed chronic degeneration and which contained several small abscesses. They were about the size of an orange, and the patient gave the history of repeated abortions, which were brought on by her own hands. The uterus was twice its normal size, and retroflexed. The Doctor placed it in position by ventral fixation and closed the abdominal wound. The operation was made at the Woman's Hospital, this city. Dr. J. F. Bennett gave the history of the patient whom the Doctor had operated on, who, among the other signs and symptoms that these patients always have, had a continual show of flow the last three months which could not be controlled by intrauterine applications of ergot, etc.

PUBLIC HEALTH.

Improvements in the Drinking Water of Paris.—Fifty-nine communes of suburban Paris have had nothing for drinking water but the water from the Seine, taken below the city, until last January. This is now changed, and the water is all drawn from the river above the city, filtered and delivered to three reservoirs, from whence it is distributed, and considered "quite satisfactory."

To Prevent Epidemics in Arkansas. According to a law passed in 1895, whenever the health of the citizens of Arkansas is threatened by the prevalence of any epidemic or contagious disease in that or any adjoining State, and in the judgment of the Governor of Arkansas, the public safety demands action on the part of the State Board of Health, the Governor shall call the attention of the Board to the facts and order them to take such action as the public safety of the citizens demands to prevent the spread of such epidemic or contagious disease.

Typhoid Fever Caused by River Ice.—The *Medical Press and Circular* states that there has heretofore been published, in that and other journals, an abstract of the report of the Paris municipal analyst, which revealed the fact that much of the ice served out in clubs and restaurants is of inconceivably filthy origin and laden with nameless abominations. It is now stated that the military officers at Rennes have suffered from a typhoid epidemic which has been traced to the ice which was used to cool the champagne at a banquet. The ice had been taken from the neighboring river at a point where the town sewers empty themselves.

Mortality in New York City in 1895. There were in 1895, 43,420 deaths, with an average annual rate of 23.11 per 1,000 in an estimated population at July 1, of 1,879,195. The census population of April, 1895, was 1,851,060. The births numbered 53,731, marriages 20,612 and still-births 3,372; these three items are all regarded as incomplete. Deaths under five years 18,221, of which the males were 9,782 and females 8,439. Deaths under one year 11,267; males 6,186, females, 5,081. Deaths among the colored 1,100. By infectious diseases there were deaths by diphtheria 1,634, croup 342, measles 793, scarlet fever 468, typhoid fever 322, smallpox, 10. The number of

reported cases of diphtheria and croup was 10,353, measles 8,203, scarlet fever 3,808, typhoid fever, 965 and smallpox 41. Numerous as were the reported cases of measles, there was a decline from the reported cases in 1894, while the proportion of deaths to reported cases was much heavier. The mortality by phthisis at 5,205 was heavier than in 1894, when the white plague carried off 4,658.

Public Works in Italian Cities.—The last few years have seen many sanitary improvements in the chief cities of Italy. Rome has changed much and has not grown more beautiful, although the new quarter on Monte Testaccio has had a regular "boom," if such a term can be applied to any part of the Eternal City. The water supply is abundant, many new sewers have been built and also some important works to regulate the Tiber and prevent inundations. A hundred million francs have been devoted to building new sewers in Naples since the cholera epidemic of 1884, demolishing unsanitary buildings and improving others, with the introduction of an abundant water supply and the opening of many streets and public squares. Florence has also opened many new streets and squares, while Palermo has spent forty-four millions of francs in introducing a new water supply and sewer system.—*Journal d'Hygiène*, March 12.

Higher Grades of Antitoxin for Diphtheria.—According to a circular of information recently issued by the New York City Board of Health, after diligent experimentation for a stronger serum against diphtheria, three grades of an extra-potent antitoxin has been produced at the laboratory of that Board. While the serum prepared by Behring and others, and designated by them as Nos. 1, 2 and 3, contain respectively 60, 100 and 150 antitoxin units to each cubic centimeter, the New York Board is now ready to supply what it indicates as its No. 4, having a strength of 200 antitoxin units to the cubic centimeter, No. 5 representing 300 units, and No. 6, 400 units. In using these it will be necessary, of course, to diminish the size of injections in accordance with the added potency of the new preparations; No. 4 having one-half the dosage of No. 2, No. 5 one-half that of No. 3, and No. 6 about one-third of that of No. 3. The price charged per phial for No. 4 is $1.25; for No. 5 is $2.00, and for No. 6 is $3.00. The Behring imported serum also comes in an extra-potent strength, which approximates a concentration of five times the former standard, which is spoken of as the one hundred fold serum. The new variety is called the five hundred fold serum. The old form, as well as the new, is still imported. This concentrated serum is preferable for immunizing purposes as an injection of half a cubic centimeter, about eight minims, of a five hundred fold serum suffices for inoculation before infection. With such a small quantity of serum, local secondary symptoms have not been observed. This extra-potent serum is not prepared from serum of lower activity by a process of concentration, but is obtained direct from the animal body.

Drainage and Plumbing Laws in the Iowa Board of Health.—The legislatures of three States, Iowa, Ohio and New Jersey, are engaged upon bills whose intent is the protection of the people's health from injury by bad plumbing. The *Sanitary Plumber* says of the Iowa bill: "This proposed enactment, in its first section, makes it unlawful for master of journeymen plumbers to follow the trade without having first obtained a license. The second clause provides for an examination, under authority of the Board of Health, of the applicant for a license; and section third makes provision for the creation of a Board of Examiners, consisting of the chairman of the Board of Health, a member of the Board of Public Works, and a practical plumber. From May 1, for one year, the sum of $5 per day for actual service being each member's remuneration. Section four defines the duties, the scope of examination of candidates (practical knowledge of plumbing, house drainage and plumbing ventilation), the fees for licenses, and the licenses so issued being valid all over the State. The fifth section provides for the appointment in towns and cities of inspectors of plumbing who shall be practical plumbers, and who shall inspect all plumbing work for which permits must be issued. Section six makes it mandatory on Boards of Health in towns where there is a sewerage and water service to formulate a code of rules, and require the filing and approval of plans for work in relation to plumbing, both new work and repairs, before such work can be commenced. The seventh section defines the violation of the statute to be a misdemeanor, the penalty being by a fine and by the revocation of the license. In connection with the movement it should be stated that it had its origin in the desire of master plumbers to elevate the standard of plumbing work in the State but strangely enough the measure is denounced by the press as an effort to create State Boards at the expense of the taxpayers. It is expected, however, that it will become a law."

Vital Statistics for New York State in January, 1896.—The last *Bulletin* of the Board of Health of the State of New York contains the following bills of mortality: There were 10,176 deaths reported during January, and an estimated death rate of 18.50, there having been an average daily mortality of 328, against one of 305 in December, and of 354 in January, 1895. Compared with the preceding month the relative infant and zymotic mortality was the same: there was an increase in mortality from scarlet fever, measles and cerebro-spinal meningitis, and a small decrease from typhoid fever and diphtheria. Compared with January, 1895, there were considerably more deaths from scarlet fever, measles and typhoid fever, that from zymotic diseases being about the same. The increased mortality is over all parts of the State, that from scarlet fever, measles and cerebro-spinal meningitis being limited to the maritime district, the decrease in typhoid fever and diphtheria being general. Scarlet fever was reported from 46 localities in various parts of the State, against 43 in December; diphtheria was reported from 32 localities, the same as in December; typhoid fever from 22 localities, against 34 in December. One death occurred from smallpox, in Brooklyn. Consumption caused 100 more deaths than in December, but 100 fewer than in January of last year. Acute respiratory diseases caused 2,000 deaths, an increase of 250 over December, but 570 less than in January, 1895, and less than in this month for five years. There were 687 reported deaths from diseases of the urinary system, which is an unusual number; other local diseases caused about the same mortality as in December. The large increase in mortality which for several years has been reported in January over December, due to grip, has not occurred and the usual annual recurrence of grip which appears to have set in during December has been far milder than any of the series, not more than 500 deaths being attributable to it this month. There has been a remarkable epidemic of jaundice in the Hudson Valley district, and the reports of death from jaundice elsewhere in the State indicate its probably more wide-spread distribution. The average mean temperature for the month was 4 degrees below the normal, with wind more northerly than usual, of moderate average velocity, and a deficiency in the precipitation (rain or snow fall).

Typhoid Fever at Wilmington, N. C.—The last *Bulletin* of the North Carolina Board of Health has an instructive account of a sequence of typhoid fever cases, due to the use of drinking water polluted with sewage. In the latter part of last November a social gathering of young people, chiefly collegians and their friends, met in an assembly hall. A part at least of the drinking water supplied by the custodian of the hall, was obtained from a polluted source, and as a consequence several cases of typhoid fever, with two fatalities, occurred. The following are some of the significant facts recounted by the *Bulletin*, in relation to these cases: "There are only two sources from which the water supply might have come—the river at the

dock, or the well at Haar's store. But there is no reason to suppose that Haar's well was infected as it is used by his household and quite a number of small stores in the neighborhood, and there has been no report of sickness from the persons using it. We submit the report of Dr. Pate, the bacteriologist at Gibson Station, made at the request of Dr. A. H. Harriss, the Superintendent of Health of Wilmington. Four samples were sent to Dr. Pate: 1, water from the dock at half flood; 2, water from Haar's well; 3, water from the hydrant of the city water works; 4, water that had been in the cooler in Germania hall for ten days. Although no typhoid fever germs were found by Dr. Pate, it is to be remarked that the dock water contained large quantities of intestinal bacilli, and these may have been the cause of the fever, and probably were, as it is now claimed and generally admitted, that the common bacillus of the colon under favorable circumstances may aid in the development of the typhoid germ. At any rate the action of the careless janitor was followed by a terrible calamity—the sacrifice of two beautiful young women, the darlings of their respective families, and endangered the lives of four other young people."

Health Reports.—The following health reports have been received in the office of the Supervising Surgeon-General Marine-Hospital Service:

SMALLPOX—UNITED STATES.

New Jersey: Newark, January 1 to 31, 1 death.
Tennessee: Memphis, March 21 to 28, 8 cases.
Louisiana: New Orleans, March 21 to 28, 92 cases, 16 deaths; Shreveport, March 21 to 28, 1 case.
Kentucky: Paducah, March 24 to 31, 1 case.

SMALLPOX—FOREIGN.

Nantes, February 1 to 29, 2 cases.
Dublin, March 14 to 21, 2 cases.
Acapulco, March 15 to 22, 3 cases, 1 death.
Birmingham, March 14 to 21, 1 case.
Buda-Pesth, March 4 to 11, 1 case.
Calcutta, February 15 to 22, 1 death.
Callao, February 16 to March 8, 4 deaths.
Guayaquil, March 13 to 20, 5 deaths.
Madras, February 22 to 28, 3 cases.
Moscow, March 1 to 7, 1 case.
Odessa, March 7 to 14, 6 cases, 2 deaths.
Paris, March 7 to 14, 1 death.
Prague, March 7 to 14, 8 cases.
Rotterdam, March 14 to 21, 1 case.
St. Petersburg, March 7 to 14, 10 cases, 3 deaths.
Trieste, March 7 to 14, 1 case.
Warsaw, March 7 to 14, 6 deaths.

CHOLERA.

Calcutta, February 15 to 22, 58 deaths.

PLAGUE.

Hong Kong, February 15 to 29, 74 deaths.

YELLOW FEVER.

Sagua la Grande, March 13 to 20, 5 cases.

MISCELLANY.

Divorce in Connection with Suicides and Insanity.—An article in the *Idea Libérale* (French), condemning divorce, states that the number of suicides and insane among the divorced or separated is ten times as large as among the married, and from four to seven times as large as among the unmarried.

Physicians' Beards.—The *Nord Médical* replies to an article on this subject by our esteemed contemporary the *Boston Medical Journal*, which concludes that medical men should not wear beards for bacteriologic reasons, acquiescing and adding that they should all be bald also.

New York Coroner.—On March 27, Dr. Theodore K. Tuthill, of New York city, was appointed by Governor Morton to be Coroner, in place of Dr. William O'Meagher, deceased. He is 45 years of age. He has served as pension surgeon during a part of President Arthur's administration and during the whole of Mr. Harrison's term.

Experimental Rachitis.—Gley and Charrin have produced numerous typical cases of rachitis in animals by inoculating the parents with diphtheritic, tuberculous, pyocyanic and syphilitic toxins, followed by the characteristic curvature of the bones, atrophy, stunted growth, enormous epiphyses, etc., in the offspring.—*Gazette Méd. de Paris*, March 7.

When Will the British Medical Association Visit Canada?—The Montreal Branch of the British Medical Association have invited the Association to meet in Montreal this year. This invitation can not be accepted, as arrangements have already been made to meet in Carlisle, but it is probable that the Medical Association will before long follow the example of the British Association for the Advancement of Science and hold a meeting in Canada.

An Accurate Diagnosis.—He was an only son, a medical student who had a fatal fondness for the fair sex, and as he limped to his usual seat at the breakfast table, his mother inquired of him what was the matter. "Oh," he said, "had a stroke of paralysis last night." "What!" the whole family shouted in terror. "Oh," said the embryo physician, with an exhibition of scorn befitting an American explaining a bit of dry humor to an Englishman, "you see, I just went around to see her last night and her pater objected with a gun, and I came home with this fine case of lead paralysis."

Serum therapeutics in Japan.—Dr. Kitasato is an enthusiast for serum treatment, and has introduced it into Japan with great enthusiasm. His antitoxin is very powerful, nine cubic centimeters being as much as is ever required. The laboratories at Tokio are magnificently equipped, the people are eager to adopt the new treatment, and the percentage of deaths from diphtheria has been reduced from 56 to 8.8 per cent. He prefers the serum from sheep.

The Lyman Prize at the Boston Hospital.—The *Boston Medical and Surgical Journal* states that the "Lyman Prize for the year was awarded to Dr. G. B. Henshaw, of Cambridge, for a paper entitled 'The Treatment of Typhoid Fever by the Typhoid-Thymus Extract.' In announcing the above award it was also stated that the judges had decided 1, that for the future the amount should be awarded to one paper, and that only one prize should be given each year; 2, that the prize would in future be open to competition to any one not more than five years out of the hospital, instead of three years, as in the past."

Study of the Intra-organic Chemic Transformations.—Kaufmann has been studying the respiratory changes, the total excretion of nitrogen and the heat generated in these processes. He used Kjeldahl's process for the determination of the nitrates in the urine, and Hirn's method for the remainder. The man or animal was placed in the air-tight chamber, and the heat and the respiratory changes were determined with great accuracy by tests of the atmosphere before and after. The knowledge thus obtained will be found very useful in future study of these processes, both normal and pathologic.—*Gazette Méd. de Paris*, March 7.

Acetylene Gas.—The editor of *Science* writes regarding this substance as follows: "Acetylene gas seems hitherto to have been promoted chiefly with a view to selling stocks and franchises, though we understand the process is not covered by patents. It seems, however, probable that the gas will have important practical applications, which shows once more the practical importance often following chemic research. Acetylene gas is a hydrocarbon compound resulting when water is added to calcic carbon, which is made by fusing lime and carbon in an electric furnace. The only commercial acetylene is now made at Spray, N. C., but it is reported that a furnace is being erected at Niagara Falls, and that large quantities of the gas will soon be manufactured. The advantages of the gas are its brilliant white light, ten to twenty times as great as coal

gas, its portability and (it is claimed) its cheapness. It should be remembered, however, that it is poisonous and, especially in certain compounds, explosive."

Professional Infection.—Dr. Guermonprez, of Lille, was operating on epithelioma of the face, when an abrupt movement turned back his nail. A papilloma developed under the nail soon after, that resisted all treatment for nineteen months. He reports also the case of another physician, now suffering from a cancerous ulceration, who had a habit of scratching his face, and as he often had occasion to treat cancerous troubles, the cause was undoubtedly infection thus received.—*Bulletin de l'Académie de Médecine*, March 10.

Dr. L. A. Sayre's Nineteenth Birthday.—Dr. Sayre, of New York city, celebrated February 29 as his nineteenth birthday, although entering upon his 77th year. As the year 1900 has been decreed not to be a leap year, Dr. Sayre's next birthday will not recur until eight years have passed away. Dr. Sayre was the recipient of a shower of congratulations, "receiving messages from England, Germany, France, India, Siam, and from nearly every State in the Union. He received more than one hundred telegrams and cable messages. Several persons sent original poems commenting upon his extreme youth. One of the presents was an oil painting of the old homestead at Madison, N. J., where he was born."

A White Race Native to Tropical Africa.—The *Illustrated Africa* states that a remarkable discovery has been made public by Captain H. D. Laymore, of the Gold Coast constabulary. There is a region beyond the Koranzas to the northeast that is yet unexplored by white men, but the native caravans are constantly passing through the district, which is declared by those who have visited it to be inhabited by a race of white men living in caves. All accounts agree that these cave-dwellers have light hair and blue eyes, and, according to a Mohammedan priest and hadji who had seen them, they are a strong and fearless, but exclusive race, and do all in their power to prevent strangers from passing through their territory.

Pneumococcus Abscess of the Ovary.—Etheridge, *American Journal of the Medical Sciences*, April, 1896, reports three cases of abscess of the ovary due to the pneumococcus. The author has not been able to find any report of ovarian inflammation due to this microörganism. Clinically the cases did not seem to present any special or peculiar conditions. None was preceded by lobar pneumonia as shown by the histories. The striking condition was the tenacious, viscid character of the pus in one of the cases. Etheridge mentions the following as the possible routes of invasion: *a*, the genital passages; *b*, the intestines; *c*, the general circulation. In two of the cases the abscess wall contained "luteal cells," which is interpreted as indicating a corpus luteum as the starting point of infection of the ovary.

Necessity of a Revision of the Supposed Streptococcus Throat Troubles.—Widal and Bezancon announce that they have been investigating this subject, with care, and they are convinced that streptococci are always present in healthy mouths and throats. They found them even in the dephths of healthy tonsils and they can not be considered an evidence of pathologic conditions. They also isolated and examined 122 specimens of streptococci to find if there were any differences between those found in normal and diseased conditions. They found none. They assert one fact of importance, viz., that bacilli to be virulent must first have penetrated into the tissues. Streptococci found in the mouths of smallpox patients, had scarcely any pathogenic effect on animals, while cultures made from the blood and tissues of the same patient were highly virulent.—*Bulletin Médical*, March 15.

Statistics of Pneumothorax.—Wishing to secure accurate data for a study of this subject, Galliard addressed a circular letter to the physicians of Paris and other towns in France, begging them to supply him with the following information: The number of patients in their charge January 22, at 10 A.M., suffering from pulmonary tuberculosis. Also the number of cases of simple pneumothorax, hydro- and pyo-pneumothorax at that same hour. He received 282 replies to his appeal. The total was as follows: 3,415 tuberculous patients, (2,253 men and 1,162 women), 35 with unilateral pneumothorax and 1 bilateral. Of these, 19 were simple pneumothorax, 9 hydro-pneumothorax, 4 pyo-pneumothorax and 3 pneumothorax without vomiting. There was only one case among 283 children. Biarch has kept a record of all cases of this kind in three hospitals in Vienna for twenty-four years, amounting to 433 among the 58,741 tuberculous patients.—*Gazette Méd. de Paris*, March 14.

The Fauna of Cadavers.—M. Mégnin, who has been for some years associated with Brouardel in his medico-legal studies, presents in the form of a monograph (La Faune des Cadavres, Paris, reviewed in *British Medical Journal*, March 21) the results of his studies of the biology of the insects found in dead bodies. He shows that it is now possible to determine in an exact manner the time of death of an individual by an examination of the cadaver and of the successive generations of insects found inhabiting it. He has demonstrated that these successive inhabitants always arrive in the same order from the time of death to that of complete disintegration. This period he divides into eight stages, each characterized by a typical denizen. This fact he explains thus: As decomposition proceeds, there is a regular sequence of bacteria. The odor evolved he supposes is characteristic for each successive stage, and these odors serve to attract the particular fauna diagnostic of each of the eight stages. The importance of these observations from a medico-legal standpoint can not be overestimated. M. Mégnin shows by numerous interesting cases that his observations can be used practically.

Large Bequests to Hospitals and Societies in New York.—The will of the late George Bliss, of New York city, partner of Governor Morton, includes the following charitable bequests: Yale University, to be used at the discretion of the president of the institution, $50,000; Woman's Hospital of the State of New York, $20,000; Hospital of the New York Society for the Relief of the Ruptured and Crippled, $20,000; Manhattan Eye and Ear Hospital, $10,000; also about $40,000 more to religious organizations; in all not less than $140,000. Under the will of Bryan Lawrence, late of New York city, St. Vincent's Hospital will receive $2,500. St. Joseph's Hospital, St. Frances' Hospital and St. Benedict's Home for Colored Children $1,000 each. Under the will of Mr. William Moir, the sum of $5,000 will be donated to the Presbyterian Hospital, and also to the Northern Dispensary of New York, in all about $60,000 being bestowed upon the charitable institutions belonging to the Presbyterian denomination.

Must Consider all the Heads of Damage.—In the case of Brown vs. Foster, decided Feb. 21, 1896, the appellate division of the supreme court of New York said that the jury, when they rendered a verdict for the plaintiff, resolved in her favor all the questions of fact on the merits; and it was then their duty to give her such a verdict as would compensate her for the injuries she had received by falling on an icy sidewalk in front of defendant's premises, by reason of alleged negligence on the part of defendant. There was no doubt that these injuries, while they were perhaps not permanent, were grave. The rule in such a case, the court says, is that where the jury conclude that the plaintiff is entitled to recover they must, in assessing the damages to be awarded, consider all the heads of damage in respect of which the plaintiff is entitled to compensation. These are the bodily injuries sustained; the pain suffered; the effect on the health of the sufferer, according to its degree and its probable duration; the expenses incidental to an attempt to

effect a cure or to lessen the injury; the pecuniary loss sustained through inability to attend to a business, as to which, again, the injury may be temporary or permanent. If they have taken all of these elements of damage into consideration, and have awarded what they deem a fair and reasonable compensation under the circumstances of the case, a court ought not, unless under very exceptional circumstances, to disturb their verdict. In this case the jury, finding that the plaintiff was entitled to a verdict, gave her one for the amount of her doctor's bill, $108, and no more, and the court holds it inadequate.

Disciplinary Measures in a County Society.—The New York County Medical Society has, at its last stated meeting, expelled by a unanimous vote one of its members, on the score of unprofessional conduct. The charges against the practitioner are in part that he has been for three years or more the conductor of a "private clinic," which latter he has largely advertised in the newspapers and in other ways, and thereby violated one of the by-laws of the Society. He had been summoned to appear before the Society's Committee on Ethics and answer to the accusations against him, but he had disregarded the mandate, as required by the terms of his membership in the Society. Discipline perforce followed. If the reported conversations, given in the daily press, are true the expelled member will not let the matter rest there, but will without delay call the Society to account in the courts in a suit for damages for defamation of character; and also that the true causes for this act of discipline is rather a matter of personal spite or jealousy, on the part of some neighboring practitioners, than the particular alleged fault that has been brought up against him by the Committee on Ethics.

An Anti-Typhoid Serum.—The *British Medical Journal*, February 29, states that in a paper before the Paris Société de Biologie on February 22, on "the Early Diagnosis of Typhoid Fever by a Bacteriologic Examination of the Stools." M. Chantemesse said that last June he had succeeded in immunizing several horses against the virus of typhoid fever. He had obtained the serum of such strength, that one-fifth of a drop inoculated into a guinea pig twenty-four hours before infection protected it against a dose of typhoid virus fatal to animals not previously injected with the protected serum. It was ascertained, also that injections of the serum produced no injurious effects upon a healthy man. M. Chantemesse stated that he had since employed injections of serum in three cases of typhoid fever. The temperature showed a regular fall from the time the first injection was made, and several days after the commencement of the injections all three patients were quite free from fever, and had commenced to convalesce. M. Chantemesse added that the cases were not yet sufficiently numerous to permit any trustworthy conclusion to be drawn.

Bright Points.—Patient: "Doctor, I'm in a bad way." Dr. Newmethod: "Diet." "I can't sleep." "Diet." "I can't eat." "Diet." "I'm bilious." "Diet." "My hair is turning gray." "Dye it."—*New York World.*

"I hear the Apache Indians have broken out again." "Heavens, how many have they murdered?" "Nobody; they've got the measles."—*Yale Record.*

"You've been hanging around here long enough," remarked the citizens' committee, as it proceeded to give the white caps a taste of their own medicine.—*Detroit Tribune.*

"Father," said Sammy, "the teacher says you ought to take me to an optician's. He says I've got astigmatism." "Got what?" "Astigmatism." "Well, if he don't thrash that out of you," roared Mr. Wipedunks, "I will!"

First Physician: "How is that patient you got $5,000 out of the liability company for? Able to be out?" Second Physician: "Not yet; I'm going to get my whack out of that $5,000 first."

Mr. Dolley: "Medical experts say that the uncarbolized kiss is deadly." Miss Flyp: "I'm no coward."

Gastroscopy.—In the *British Medical Journal*, Dr. Rosenheim is quoted as the inventor of a new gastroscope—made for him by Hirschmann of Berlin—which he expects will be suitable in some cases for which other instruments will not suffice. That author in the *Deutsche Medicinische Wochenshrift*, has discussed the position of the cardia and the course of the lowest part of the esophagus. He concludes that the usual position of the cardia in the adult is opposite the twelfth, rarely the eleventh, dorsal vertebra. The anatomic relations are important in respect to the use of the gastroscope. He maintains that where it is impossible to pass a stiff tube into the stomach with the patient in the dorsal position, the difficulty is due to muscular cramp or to the physiologic bend at the esophageal foramen in the diaphragm. By introducing the rigid tube from the right side of the mouth and pressing the point to the left, the lowest part of the esophagus can be most readily passed. A certain gentle pressure may be necessary, and a change in the patient's position from the back to the right side may facilitate it. In a minority of cases with disease involving the cardia, the parts may not be distinctly seen by the gastroscope without an anesthetic. The author then refers chiefly to Mikulicz's investigations into esophagoscopy. This authority used a curved tube in order to overcome the difficulty of passing through the lowest part of the esophagus; he thought that it was impossible to accomplish this with a straight tube. This curve introduces difficulties in respect to the optical arrangements. The author maintains that the optical apparatus should be in the straight line. His observations lead him to say that in nearly 70 per cent. of the cases examined by him a straight gastroscope can be passed into the stomach. Under certain conditions, such as an abnormal curving of the esophagus due to pathologic causes, it may be impossible. A local spraying with cocain by means of a special apparatus has been tried by the author to overcome the cardiospasm, but with indifferent success. He concludes that with few exceptions it is possible with a straight or slightly curved instrument to get deep enough into the stomach for gastroscopic purposes without an anesthetic and without doing any injury. One gastroscope will not suit all cases, but a straight instrument suffices in by far the majority of cases.

Practical Notes.

Blisters.—Huchard asserts that blisters are a survival of barbarism, or words to that effect. He has observed albuminuria and acute uremia, as also interstitial nephritis, follow the application of a single blister, and strongly deprecates their use, even in pleural troubles.—*Bulletin Médical*, March 15.

Lactic Acid in Ulcerations of the Cornea.—Dolgenkov has secured excellent results in forty cases, most of them chronic, by dropping three or four drops of a 50 per cent. solution of lactic acid into the sore; the inflammation disappears, and the ulceration heals completely.—*Wratch*, No. 29, 1895.

Oxydizing Powers of Organs.—Abelous and Biarnes announce that this power can be measured in an organ by the effect of salicylic aldehyde upon it. The spleen, lungs and liver are preeminent; next come the kidneys, suprarenal capsule, pancreas and thyroid glands, while the nerves and muscles scarcely possess it at all. This is contrary to what has generally been accepted.—*Bulletin Médical*, March 11.

Cantharidin Internally Administered in Tubercular Disease.—The *New York Medical Journal* has the following formulas of Dr. J. Frendenberg (*Therapeutische Wochenschrift*) for the exhibition of this drug: Cantharidin 1 part, alcohol 1000 parts, distilled water, 100,000 parts. He directs a teaspoonful, diluted with water, to be taken three or four times a day in cases of cystitis. Solutions of cantharidin are not very stable; consequently if the remedy is to be used for a considerable length of time, as in scrofula and tuberculosis, it is better to order it in pill form according to the following prescription:

Cantharidin, 2 milligrams (0.031 gr.), white bole, 2 grams (30.86 grs.); mix and divide into thirty pills, of which one is to be taken daily, before breakfast.

Adherences between the Peritoneum and the Symphysis discovered in Suprapubic Cystotomy.—At the last meeting of the Soc. de Chir., Paris, Rollet reported three cases of adherences observed between the cul-de-sac of the peritoneum and the pubis, which is so rare that Petersen's and Polaillon's are the only cases on record in France, while it often occurs that the peritoneum descends very low. Some members thought that Rollet might have mistaken the latter for adherences, but in either case surgical interference is not contraindicated.

Treatment of Certain Tumors in the Mouth with Chlorate of Potash.—Dumontpallier recommends this treatment in high terms, as he has been very successful with it in his practice. He applies it, finely pulverized to the tumor, four times a day, and administers it internally also, in a solution of 4 grams to 120 grams of water. He ascribes its beneficial effect to the fact that it passes into the secretions of the salivary glands, and thus keeps the tumor under its influence all the time. This treatment must be continued two or three months and the kidneys must be kept in good order. All sources of irritation from the teeth must be carefully exterminated. Before resorting to the bistoury he urges this treatment to be tried in almost all cases.—*Bulletin Méd.*, March 11.

Hiccough and Other Suffocative Symptoms.—The *Popular Science News* has an annotation to the effect that a means of relieving a certain proportion of such cases has been accidentally found, as follows: "A female patient presented herself at a French hospital for a rebellious hiccough, which had resisted all treatment for four days. She was asked to show the tongue, and it was noticed that with the putting out of the tongue, the hiccough ceased. The same thing has been since tried, and with success in other cases. All that is necessary apparently is to strongly push the tongue out of the mouth and hold it so for a minute or two. It is also suggested now to try the same thing in suffocative cough, as whooping cough, and choking by irrespirable gases."

Family Tendency to Appendicitis.—Many families are known where several members have suffered from appendicitis, and the question is being discussed just now, whether this is due to a congenital malformation, or an arthritic tendency, or to a tendency to parenchymatous gastritis, which is known to be hereditary and Hayem's experience has been that it is an invariable accompaniment of appendicitis. Whatever the cause, a family diathesis of this kind is an indication for prompt intervention at the first symptom of appendicitis, and Faisan considers it sufficient to call for the removal of the appendix even in the mildest cases of trouble. Bouchard noted some time ago that victims of appendicitis were especially those who suffered from gastric troubles.—*Gazette Méd. de Paris*, March 7.

Louisville.

UNIVERSITY OF LOUISVILLE.—The Medical Department of the University of Louisville held its annual commencement exercises at Macauley's Theater on March 30, the graduating class numbering fifty-nine. Dr. J. M. Bodine, who has been Dean for the past twenty-seven years, presided, the Hon. Jas. S. Pirtle, President of the Board of Trustees, conferred the degrees. The valedictory address was delivered by Dr. Henry Wm. Coleman of West Virginia, and Dr. C. M. Rosser of Texas, delivered the alumni address, his subject being "Doctors and Doctors." Dr. H. A. Cottell delivered the Faculty address, the "Life and Character of the late Professor Edward Rush Palmer, M.D.," being his subject. He prefaced his remarks with the following: "Like a plaint of sorrow after shouts of joy; like the cry of pain that calls the kind physician from the circle of good cheer to the bed of suffering; like an elegy of blight after sunshine and bright flowers of May time; like the heart-breaking phrases of the funeral march after the bright melodies which have gladdened this festal day, I come with sorrow's solemn theme, and change the scene from gay to grave while your Alma Mater pays tribute to the memory of her most beloved and gifted son. For never in the fifty-nine years of its eventful existence, from among the eminent names upon the professional list, has the University lost a teacher so bright, so eloquent, so original and at the same time so beloved of his pupils as Professor Edward Rush Palmer." After giving many facts relating to Dr. Palmer's life and his ancestors, Dr. Cottell concluded with the following: "I have recited as best I could the incidents in a remarkable life and have attempted to portray in homely sketches the character of a benevolent, forceful and benevolent man. If I have read the lines aright the lessons to be learned from his life are, singleness of purpose, faith in one's self, faith in humanity, and faith in the final triumph of good. Such was the creed that Palmer's life proclaimed, whatever his work might be. He had no sympathy with asceticism, or pessimism, and no patience with hypocrisy or cant. The windows of his soul were thrown wide open to the sun, and Apollo, the god of sunshine, music, poetry and medicine ever held him in fealty if not in worship. His sunny spirit has gone out from the circle of the days and the solemn question, where, with its awful significance, bids us pause once more ere we say farewell. Has it, like gentle Hesperus, but faded away for a season in the many tinted clouds of evening twilight, to shine anon with with fairer luster in the morning sky? Let us have faith to hold it so."

METEOROLOGIC SUMMARY.—The report of the weather bureau for the last month shows many interesting points about the climate of Louisville and vicinity. The maximum temperature was 71, and the minimum 16, the mean being 40. The prevailing winds were southerly. The mean atmospheric pressure 30.107 inches, the maximum velocity of wind 35 miles, direction southwest, date 28th. Total precipitation 4.86 inches, this being exceeded only eight times in the last twenty-four years. Number of clear days 8, number of cloudy days 14, number of partly cloudy days 9.

NORTON INFIRMARY.—The tenth annual report of the John N. Norton Memorial Infirmary has just been issued and shows this worthy institution to be in a splendid condition. It has as a frontispiece a very good picture of the Infirmary, then follows a list of the board of trustees, officers and managers; then a report from the President, The Rt. Rev. T. U. Dudley, Bishop of Kentucky.

DR. BURNSIDE.—Dr. Robert Burnside of Barboursville was stabbed on the evening of March 28, and as a result of his wounds died April 2. Sawyer, the man who stabbed Dr. Burnside, is a desperate character, and his attack upon the Doctor was wholly unwarranted and unexpected. There were no witnesses but a few boys who were too scared to know what to do, and there is little doubt but that the murderer will go scott free.

Cincinnati.

THE MORTALITY REPORT for the week ended Friday, March 27, shows: Diphtheria 2, measles 2, typhoid fever 2, whooping cough 1, other zymotic diseases 2; cancer 1, phthisis pulmonalis 19, other constitutional diseases 7; apoplexy 4, bronchitis 11, convulsions 2, meningitis 6, nephritis 4, pneumonia 20, other local diseases 31. Deaths from developmental diseases 11, from violence 3, under 1 year 22, from 1 to 5 years 29, from all causes 128. Annual rate per 1,000, 19. Deaths during the preceding week, 123; during corresponding week 1895, 146; during corresponding week 1894, 99; during corresponding week 1893, 108.

DR. CHARLES S. MUSCROFT has been appointed a member of the Ohio Penitentiary Board of Managers.

DR. ORPHEUS EVERTS has just published a small poetic volume entitled "Facts and Fancies."

A CASE OF SEVERE EPISTAXIS was admitted to the City Hospital last week which resisted all attemps to stop it for two days.

THE GRADUATING CLASS of the Miami Medical College numbered twenty-six, while the Medical College of Ohio turned out eighty-four, and the Cincinnati College of Medicine and Surgery twenty-four.

THE SUIT against Dr. A. P. Taylor, of Lexington, Ky., for $6,000 for malpractice, has resulted in a verdict for the defense.

AN EPIDEMIC of cerebro-spinal meningitis is raging at Paintsville, Ky. There are twenty cases and nine deaths reported.

THE ACADEMY OF MEDICINE discussed the subject of expectoration in street cars and on the streets. The Women's Civic League are endeavoring to arouse a public sentiment against this filthy habit, and the Academy passed a resolution endorsing their move.

DR. B. F. BEEBE presented to the Academy a case of supposed chylous ascites. The patient, a middle-aged man, locomotive engineer, and of a good history, noticed a swelling on his abdomen about six months ago with no other symptoms. This rapidly increased and on account of the severe dyspnea Dr. Beebe had inserted a trocar into the abdomen and extracted about two gallons of fluid resembling milk. Upon examination this fluid was found to be composed of fat globules finely divided, no flocculi or other ingredients, after standing ten days the fluid decomposed and turned a dirty yellow. The heart and kidneys were normal. At present it is estimated there are two or three gallons of fluid in the abdomen. Emaciation is becoming noticeable.

DR. H. W. BETTMAN presented a case of locomotor ataxia in which the stomach was found to be of normal size but located below the umbilicus and extending down to the floor of the pelvis. This was demonstrated by trans-illumination with the electric light.

DR. JOS. RANSOHOF presented a case of excision of the shoulder for tubercular disease of the head of the humerus. The incision had been made across the arm instead of parallel to its long axis, and the result was very satisfactory. A case of cyst of the spermatic cord in which the cyst had been removed without rupture was also shown.

DR. W. B. WEAVER presented a case of an infant which had been intubated when nine months old for some dyspnea and cyanosis; relief was at once obtained, and some time after the tube had been removed the child coughed up a piece of tin about half an inch square.

Detroit.

THE DETROIT MEDICAL AND LIBRARY ASSOCIATION at its meeting Monday, March 30, did not have a regular paper, but there were very many pathologic specimens presented, and a number of very interesting cases reported. Dr. Theo. A. McGraw showed the specimen of a case of extrauterine pregnancy of five months, which he had operated on. Dr. F. D. Summers reported a case, and showed specimen of a cyst of Fallopian tube, left side, in a girl past 15 years of age. The history was one of amenorrhea and dysmenorrhea; and only by examining the patient under chloroform was he able to make the diagnosis, which was then quite easy. Dr. Theo. A. McGraw reported another case of double fracture and dislocation of head of humerus, where he attempted to do the McBurney's operation with McBurney's hook, but was unable, made an incision over the head of humerus and found the greater tuberosity of humerus separated; also head of bone fractured and dislocated in the axillary space. This made it impossible to raise it with the above named instrument, and the doctor was obliged to make an incision in the axillary space and extract the head of the bone. Dr. W. R. Parker reported five cases of obstetrics with L. O. P. position in the last few months, two of them being primiparæ.

THE MICHIGAN COLLEGE OF MEDICINE AND SURGERY held its commencement at the Detroit Opera House March 24, at which forty students received their degrees of M.D., of which four were ladies. Dr. L. E. Maire read the address for the faculty.

THE WAYNE COUNTY MEDICAL SOCIETY at its regular meeting Thursday, April 2, had a general discussion on "Medical Legislation."

HEALTH OFFICE REPORT for week ending April 4: Deaths under 5 years 37, total 85. Births, male 57, female 58, total 115. Contagious diseases: Diphtheria, last report 12, new cases 10, recovered 10, died 3, now sick 9; scarlet fever, last report 20, new cases 11, recovered 10, died 2, now sick 19; smallpox, last report none, new cases none, recovered none, died none, now sick none; measles, last report none, new cases 2, recovered none, died none, now sick 2.

HARPER HOSPITAL in its monthly Bulletin for February, 1896, gives the Annual Report for the year ending December, 1895, which, owing to the generosity of many of the business men of the city, is a very pleasing one; moreover, much of the efficiency of the hospital is due to the fact that although the Board of Trustees is largely composed of business men, yet they have left the workings of the hospital almost entirely in the hands of the medical men who are in connection with the hospital. The President of the Board of Trustees in his report mentions the fact that the collections from the earnings of the hospital together with the interest received from the free bed and general endowment funds, exceeded the running expenses of the hospital for 1895. He reported the graduation of fifteen nurses from the Farrand Training School, well equipped for their profession. He also said that the work of the Polyclinic had never been more satisfactory than during the past year, the number of patients treated being 2,365, and prescriptions furnished 7,567. All examinations, treatment and prescriptions were free. The number of patients in the hospital Jan. 1, 1895, was 61, the number admitted during the year was 1,450, making a total of 1,511. Discharged 1,300, died 124, remaining Dec. 31, 1895, 87. The receipts for 1895 amounted to $42,284.65. The earnings for 1895 were $37,109.11; the collections turned over to the Treasurer were $32,059.18. The disbursements for same year amounted to $42,284.65, which amount did not include the cost of the ambulance barn. The endowment funds of the hospital now are: William Kieft Coyl Free Hospital, $211,751.40; private free beds, $86,000; Farrand Training School for Nurses, $20,000; the Henderson free bed, $2,500; general endowment, $58,500. Dr. J. H. Carstens, the Chief of the Medical Board, reported that during the year 1895 there were treated 1,358 different persons, being 81 more patients than were treated in 1894. There were 599 medical patients, 1,093 surgical patients, including 375 gynecologic cases. According to the report of Dr. Sargent, the microscopist, there were 1,198 specimens of urine examined, 110 specimens of sputum, 35 specimens of pathologic material, such as tumors. In each case of diphtheria the diagnosis was confirmed by the growth and microscopic determination of the Klebs-Loeffler bacillus.

Philadelphia.

IRON HYPODERMICALLY GIVEN IN ANEMIA.—At the meeting of the College of Physicians, held April 1, among the papers read was one by the President, Dr. J. M. DaCosta, "On the Hypodermic Use of Iron," in which he referred to his experience with various forms of this agent, since 1874, when he originally used the ammonia citrate in symptomatic anemia. He now uses the citrate of iron and magnesia, in solution in water and finds that it rapidly produces the chalybeate effects upon the blood and is entirely free from local irritation or abscess.

CHRONIC ILLNESS IN A CABIN PASSENGER DEBARS HIM FROM IMMIGRATING.—A second-cabin passenger on the trans-Atlantic steamer *Rhynland*, because of alleged chronic illness was

debarred from landing by the Commissioner of Immigration, on March 18. The passenger was a man 26 years of age, who was accompanied by his father, an Irish farmer. It is stated that the latter made no comment upon the fitness of the law, by which his son was refused permission to land, but condemned the steamship company for selling the tickets when it must have been cognizant of the provisions of the law. The father expressed his intention of returning with his son by the next steamer. It is said that this is only the second instance of a cabin passenger being debarred from landing at this port. Some years ago an English philanthropist sent over two young girls consigned to a New York Children's Aid Society through whom it was intended to send them to homes somewhere in the west. That case appealed to the supreme court, which sustained the action of the local Board of Charities, which then had supervision of immigration at this port, and which had ordered them to return to England.

EVIDENCES OF MAN'S ANTIQUITY.—At the March meeting of the Contemporary Club, Prof. Edward S. Morse, of Salem, Mass., by invitation delivered an address on the subject, "When did Man first Appear on Earth?" At the beginning, the lecturer stated that it was impossible to declare positively within 100,000 years, how long man had existed on earth. There were marked differences in races of mankind forty or fifty thousand years ago, but we must believe that they had a common origin. There must have been a time when there was a common type. Man has been produced by the convergence of several lines of development the same as in the case of all animals. Whatever age the geologists are willing to ascribe to the tertiaries, the lecturer was disposed to accept as the date of man's appearance upon earth. At the conclusion of Professor Morse's address, Prof. D. G. Brinton stated that few geologists now think the four instances of human remains that were found in the tertiaries, to be genuine. It has come to be believed that man's origin was at a much later time, following the glacial epoch. While man himself is connected with the great chain of organic life, direct ancestry, in Dr. Brinton's opinion, had not been proven. He did not find an absolutely final argument. He had no doubt man began at one place. He further believed that man achieved his high position not by a long slow method, but that he burst into the world in one time, with his faculties and powers greater than any of his parents possessed. He cites Shakespeare and Goethe as illustrations of this exceptional endowment. Darwin himself acknowledged that what was called spontaneous variation was far beyond all his means of investigation. There is some change which occurs in prenatal life which develops the first genius or poet of a century, and it was something of this nature which occurred when man was developed from a lower animal.

VACANCIES IN BERCKLEY STAFF FILLED.—At the meeting of the Department of Charities and Correction, the vacancies in the attending medical staff of the Philadelphia Hospital were finally supplied after a most exciting and lively canvass. Dr. Augustus A. Eshner, a graduate of Jefferson College, was elected to fill the vacancy occasioned by the resignation of Dr. E. L. Vansant, and Dr. Alfred Stengel, a graduate of the University of Pennsylvania, succeeded to Dr. J. M. Andus' position. Dr. H. B. Allyn was elected Registrar, succeeding Dr. J. Chalmers DaCosta, who was advanced to the Surgical Staff. Dr. J. Wharton Sinkler resigned from the Neurological Staff; Dr. Charles H. Burr will probably succeed to the position.

PHILADELPHIA DENTAL COLLEGE.—Dr. Henry I. Dorr has resigned from the Philadelphia Dental College and will remove permanently to California on account of his health. Dr. L. Greenbaum has been elected to his chair of Anesthetics and Odontotechnics.

THE HOSPITAL FOR CONTAGIOUS DISEASES.—A Committee of the County Medical Society has been appointed to confer with a Committee of the Woman's Health Protective Association in reference to the proposed new hospital for contagious diseases.

DEATH OF THE OLDEST ALUMNUS OF JEFFERSON MEDICAL COLLEGE.—Dr. Jacob M. Gemmell, who for some years enjoyed the honor of being the oldest living graduate of Jefferson Medical College died at his home in Philadelphia March 21, in the 86th year of his age. He was born in Alexandria, Virginia, Sept. 24, 1810, and was graduated in medicine in 1831. After practicing for a few years in his native place, he removed to Altoona where he was physician to the Pennsylvania Railroad. Since 1876 he had resided in Philadelphia. For many years he had been a member of the Blair County Medical Society and of the State Medical Society, of both of which he had been President.

THE PUBLIC SERVICES.

Army Changes. Official List of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from March 28 to April 3, 1896.

First Lieut. Henry C. Fisher, Asst. Surgeon, is relieved from duty at Ft. Yates, N. Dak., and ordered to Plattsburg Bks., N. Y., for duty.

Capt. Adrian S. Polhemus, Asst. Surgeon, will be relieved from duty at Ft. Douglas, Utah, upon the expiration of his present sick leave of absence, and ordered to Ft. Wingate, N. M., for duty.

Capt. Philip G. Wales, Asst. Surgeon, now on duty at Ft. McPherson, Ga., will report in person to the commanding officer, Ft. Monroe, Va., for temporary duty at that post.

Capt. Francis J. Ives, Asst. Surgeon, is relieved from duty at Plattsburg Bks., N. Y., and ordered to St. Francis Bks., Fla., for duty at that station, relieving Major Daniel G. Caldwell, Surgeon.

Major Daniel G. Caldwell, Surgeon, on being relieved from duty at St. Francis Bks., Fla., will report in person to the president of the Army retiring board at Washington Bks., D. C., for examination by the board. By direction of the President.

Marine-Hospital Changes. Official list of changes of station, and duties of Medical Officers of the U. S. Marine-Hospital Service, for the fifteen days ended March 31, 1896.

Surgeon P. H. Bailhache, granted leave of absence for three days, March 30, 1896.

P. A. Surgeon C. E. Banks, to proceed to Baltimore, Md., to inspect unserviceable property; then to rejoin station at Washington, D. C., March 30, 1896.

P. A. Surgeon C. T. Peckham, granted leave of absence for thirty days, March 26, 1896.

P. A. Surgeon L. L. Williams, granted leave of absence for fifteen days, March 26, 1896.

P. A. Surgeon J. O. Cobb, granted leave of absence for two days, March 25, 1896.

P. A. Surgeon J. B. Stoner, to proceed from Baltimore, Md., to Savannah, Ga., and assume command of Service, March 16, 1896.

Asst. Surgeon Emil Prochazka, to proceed from Detroit, Mich., to Evansville, Ind., for temporary duty; then to rejoin station at Detroit, March 19, 1896.

Change of Address.

Andrews, Jr., B. B., from St. Louis, Mo., to Stella, Neb.
Baird, T. M., from Hot Springs, to Forest City, Ark.
Caldwell, J. R., from 202 Gladys Ave., to Chicago View Hotel (Ashland Ave. & Madison Street), Chicago, Ill.
De Hart, J. N., from 203 Willoughby Ave., to 137 Keap Street, Brooklyn, N. Y.
Hamilton, John B., from 20 Custom House, to 315 Rand McNally Building, Chicago, Ill.
Jeffery, Alicia F., from California Building to 633 Bert Street, Denver, Colo.
Kirkpatrick, O. B., Cherry Fork, Ohio, to 56 Lexington Ave., New York, N. Y.
Musser, C. J., from St. Louis, Mo., to Hampton, Iowa; Mull, Fred, Allendale, Mo.
Owsley, W. T., from Lexington to Glasgow, Ky.
Perdue, E., to Orrick, Mo., from St. Louis, Mo.
Robinson, R. D., Indianapolis, Ind.

LETTERS RECEIVED.

Andrews, Edmund, Chicago, Ill.
Burr, C. B., Flint, Mich.; Bartholow, Paul, Philadelphia, Pa.; Bardwell, E. O., Emporium, Pa.; Bausch & Lomb Optical Co., Rochester, N. Y.; Busey, S. C., Washington, D. C.; Breuer, C. H., Omaha, Neb.; Bulkley, L. Duncan, New York, N. Y.
Crane, A. M., Marion, Ohio; Caywood, J. R., Somerset, Ohio; Cokenower, J. W., Des Moines, Iowa; Coholan, M. J., New Britain, Conn.; Crothers, T. D., Hartford, Conn.
Duff, John Milton, Pittsburg, Pa.; Dick, E. B., Mt. Pleasant, Ill.; Day, L. T., Westport, Conn.
Elliott, A. R., New York, N. Y.; Ewing, F. C., St. Louis, Mo.
Fahrner, John, Joliet, Ill.; Franceville, J. C., Apalona, Ind.
Gordon, W. Frank, Danbury, Conn.; Garcelon, A., Lewiston, Me.; Garber, J. B., Dunkirk, Ind.; Gardiner, C. A., New Orleans, La.
Halsey, C. C., Montrose, Pa.; Haldenstein, L., New York, N. Y.; Hassard, John G. & Co., New York, N. Y.; Hubbard, H. C., Sidnaw, Mich.; Hughes, C. H., St. Louis, Mo.; Hummel, A. L. Adv. Agency, (2) New York, N. Y.
Imperial Granum Co., New Haven, Conn.
Johnson, H. L. E., Washington, D. C.; Jackson, Edward, Denver, Colo.; Johnson, Jos. Taber, Washington, D. C.
Knowles, B. H., Tecumseh, O. T.; Kell, J. Baillie, Barnhill, Ohio; Kane, H. H., New York, N. Y.
Love, I. N., St. Louis, Mo.; Lindsley, C. A., New Haven, Conn.; Larkin, F. A., Chicago, Ill.; Lord & Thomas, Chicago, Ill.
Mallon, T. F., Washington, D. C.; Mills, Chas. K., Philadelphia, Pa.; Munk, T., Berlin, Germany; Montgomery, E. E., Philadelphia, Pa.
Palmer, W. R., Johnsonburg, Pa.; Pearse, Herman E., Kansas City, Mo.; Patch, E. L., Boston, Mass.; Post Graduate Med. School, Chicago, Ill.
Roy, Philemon, Washburn, Wis.; Ruggles, Gale Co., Columbus, Ohio; Roberts, John B., Philadelphia, Pa.; Reed, C. A. L., Cincinnati, Ohio; Rawson, Allen A., Corning, Iowa; Risley, S. D., Philadelphia, Pa.
Small, Edward H., Pittsburg, Pa.; Seaman, Yates Dept., New York, N. Y.; Smith, E., Burchard, Neb.; Shoup, Jesse, Washington, D. C.; Stuver, E., Rawlins, Wyo.; Smogg, D. P., New York, N. Y.; Shurly, E. L., Detroit, Mich.; Smith, M., Indianapolis, Ind.; Sheboygan Binding & Box Co., Sheboygan, Wis.; Smith, Q. C., (2) Austin, Texas; Smith, Owen P., (2) Portland, Me.
Talbot, E. S., Chicago, Ill.; Thompson, S. W., New York, N. Y.; Thomason, H. D., Albion, Mich.; Trueblood, Chas., Chesterfield, Ind.
Updegrove, S., Philadelphia, Pa.
Vincent, D., Cleveland, Ohio; von Ruck, Karl, Ashville, N. C.
Woodbridge, J. E., Cleveland, Ohio; Warfield, W. A., Washington, D. C.; Woolen, G. V., Indianapolis, Ind.; Wynn, F. B., Indianapolis, Ind.; Washington Chemical Co., Washington, D. C.; Wright, J. P., St. Louis, Mo.; Wilson, D. C., Ironton, Ohio.